

GENDER AND PLASTIC BAG POLLUTION: CONSUMPTION, GLOBALIZATION,  
AND ENVIRONMENTAL JUSTICE IN MALI

by

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## THESIS ABSTRACT

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Title: Gender and Plastic Bag Pollution: Consumption, Globalization, and Environmental Justice in Mali

This study focuses on women vendors' perspectives on plastic bag consumption in markets in Mali. It also investigates how women across the urban and rural divide are affected by plastic bag pollution and to what extent women in Mali are included in policy formulation addressing plastic bag issues. I interviewed 30 women vendors in three research sites: Bougouni, Koulikoro and Bamako. In addition, I interviewed five Mali Officials including the Prime Minister and the Minister of Environment.

Plastic bags continue to be used widely in all African countries, including Mali. This has created increased environmental pollution as there is no recycling due to the lack of appropriate technology or political will. Reducing the use of plastic bags, and thus pollution, requires social and economic change that may be difficult to implement without involving one of the largest consumers of plastic bags, women, specifically those selling at the market.

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## DEDICATION

To my mother, a brave African woman who did not have the chance to go to school but who understood the importance of education and provided the necessary supports to all her children in all circumstances and places.

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# CHAPTER I

## INTRODUCTION

### **Personal Motivation to Conduct this Research**

Prior to coming to the University of Oregon, I spent my entire career as a special assistant in diplomacy and government in Mali, which allowed me privileged access to important and highly confidential matters. Even though this was a mark of trust that was not given to everyone, this privilege came with great stress. In addition to the stress stemming from confidentiality, the position was no longer challenging to me. Throughout my life I have continually questioned gender issues, recognizing the persistent gender inequalities in Malian society. Therefore, I decided to pursue a graduate degree in International Studies focusing on gender to begin a career in international development.

When I arrived in Eugene, Oregon, in January of 2011 for graduate studies at the University of Oregon on a Fulbright Scholarship, I chose to live with a host family for a year. On the day of my arrival, during the tour of the house, my host mother showed me five different garbage cans and explained where to put each type of waste. There was a garbage can for paper, cardboard, food scraps, plastics, and glass. That night, I could not stop wondering why the same household should have five different garbage cans. This may seem normal to a U.S. citizen, but in Mali there is hardly any recycling, or a reliable and efficient waste removal system. Most families either throw their garbage directly in nearby designated open public sites for waste or simply burn it.

The following morning my host mother drove me to the University of Oregon campus where I was further surprised. Unlike in Mali where I was used to seeing plastic bags spread all over the city, I did not see a single plastic bag. This was my first great

cultural shock that opened my eyes to one of the most damaging global issues of our time, environmental degradation. It was at that moment that I discovered another gap between developed and developing nations, and I immediately knew that I would write my Master's thesis about plastic bag pollution.

### **Problem Statement**

While deforestation and water pollution are important environmental issues in Mali, the pollution caused by plastic bags is arguably the most critical issue today. Besides waste and recycling issues related to plastic bags, their contemporary ubiquitous nature contributes to a host of interrelated development concerns. The United Nations Environment Program (UNEP, 2009) reported that plastic bag pollution not only destroys the natural environment but also leads to health and safety concerns. For example, plastic bags affect agriculture and livestock. The lack of recycling leads to cattle, sheep, and other livestock ingesting plastic bags littered in the streets and dying afterwards due to the garbage obstructing their digestive systems. Likewise, as plastic bags are washed into rivers, this threatens aquatic wildlife. Plastic bags require several decades to decompose, creating long-term damage to the environment (UNEP, 2009). Plastic bags also block drains causing floods that not only destroy people's homes but also take innocent lives. Finally, plastic bags hold rainwater and easily become a breeding ground for mosquitoes, which increases the risk for malaria. The World Health Organization (WHO, 2007) estimates that more than one million people a year die from malaria. Most victims of malaria are children under five in Africa. In Mali, the majority of child deaths are caused by malaria.

In Mali, women go to the market every day to sell fresh food items or to purchase food for the family's meals either because of the lack of access to reliable electricity, and thus the ability to refrigerate food, or because they simply cannot afford to buy a refrigerator. Therefore, women widely use plastic shopping bags to carry a range of household goods. Women also use plastic bags to package, carry, and sell drinking water and homemade juice such as ginger and hibiscus. Women living in urban areas with access to electricity take advantage of this income generating activity to earn money to support themselves and their families. As a result, women are the primary consumers of plastic bags, both to purchase food and household items and to sell water and juices.

The use of plastic bags as the result of globalization has impacted women and their consumption patterns in Mali. Traditionally, women used baskets made from local, natural coconut fibers to carry their goods. Today, with globalization and widespread trade, women in all African countries, including Mali, mostly use plastic bags that are imported. As stated earlier, the use of plastic bags initially imported to the country has changed the shopping habits of women and has created environmental pollution due to the increase of plastic waste and the absence of an effective waste management system. In addition, the use of plastic bags has been detrimental to the local producers of woven shopping baskets. These local producers now have fewer customers, putting their businesses and livelihoods into jeopardy. Consequently, plastic bag manufacturers are gaining from this new market while local producers are struggling to survive. Appadurai (1996) argues that, although globalization generates a borderless and a richer world, it also creates and increases the inequality that already exists between the rich and the poor. The uncontrolled production, commercialization, and importation of plastic bags from the

global north to the global south has created development challenges throughout Africa. Reducing the use of plastic bags, and the pollution they create, requires both a change in behavior as well as effective implementation of government policies.

There is now growing research and policy interest in questions surrounding environmental concerns in general and more specifically plastic bag pollution in Mali. However, there is little scholarly work that examines plastic bag pollution through the lens of gender and specifically its relationship to women and their consumption patterns. Even though there are ongoing heated debates in Mali surrounding the banning of plastic bags, these debates neglect the multiple environmental issues associated with plastic bag pollution and specifically the implications for women as a possible solution in addressing the issue.

### **Research Design and Questions**

Considering how globalization has contributed to the widespread use of plastic shopping bags and how women are often charged with the responsibility of shopping for their households, women's voices should be counted in policies addressing plastic bag use. This project looks at gender roles in Mali and how these interrelate with the utilization of plastic bags. As the primary users of plastic bags, women are contributing to environmental degradation by producing waste. At the same time, women are suffering from this waste production. Plastic bag waste threatens livestock, causes flooding, and increases the prevalence of malaria. Women are important in addressing this issue even as they are contributing to the problem; they are well positioned to be a part of the solution.

This research contributes to the ongoing debates among policy makers regarding reducing environmental pollution by banning plastic bags. Women's roles in this issue are as consumers of plastic bags, which perpetuates the problem, and as key stakeholders to implement a policy seeking to decrease or discontinue the use of plastic bags. Since women in Mali remain marginalized in both public and private spaces, the need to alter plastic bag use is an opportunity for their voices to be heard and for them to influence a particularly timely and important issue that directly affects how they live.

In my research, I chose to focus on women who sell goods in markets as an entry point into investigating these issues. Women vendors are directly dealing with plastic bags in their work as sellers and are positioned to understand the issue as sellers who rely on providing plastic bags to their customers and as consumers themselves likely to be doing the main shopping for their households. My research was based on these questions:

1. How do women selling at the market understand and perceive plastic bag pollution and its relation to globalization?
2. How are women across the urban and rural divide affected differently by plastic bag pollution?
3. To what extent are women included in the policymaking process regarding plastic bag pollution?

### **Research Methodology**

In order to address these questions, I conducted an ethnographic field study in the summer of 2012 in Bamako, Bougouni, and Koulikoro. As a woman and consumer from Mali myself, I have the cultural competency and background to conduct field research and explore women's perspectives on plastic bag use. I conducted the research over a six-

week period between August 11 and September 20, 2012, and collected data through interviews with women vendors in local markets. I also interviewed Mali officials including the Prime Minister, the Minister of Environment, the National Director for Sanitation and Control of Nuisance, the Chairman of the Rural Development and Environmental Commission at the National Assembly, and the Deputy Mayor of Bamako. Conducting a research project at that period was challenging due to the double institutional and security crisis in the country. I will give more details about this in Chapter III.

This study used qualitative methods, primarily semi-structured interviews and participant observation. I interviewed 30 women vendors, 10 in each of my three research sites: Bamako, Koulikoro, and Bougouni. I chose these three research sites in hopes of diversifying my sources and have the potential to compare the data across sites. The first day of research at each of these sites, I was introduced to my first participant, who usually was a well-respected woman in the community. For the occasion, I dressed in the same manner as my participants with simple traditional Malian dresses. This was important to establish rapport throughout my fieldwork. I spent time with my first participant at the market so that she became comfortable and familiar with me and had the opportunity to easily ask me questions. This method proved efficient and translated perfectly into participant observation. It enabled me to observe women's shopping habits and attitudes toward plastic bags. This initial site visit at the market gave me the opportunity to rethink my interview guide and make adjustments according to the cultural context of my participants.

During the interviews, I used an interview guide so that I essentially asked the same questions in roughly the same order. I chose to use the interview guide loosely so that participants had the freedom to raise issues that were important to them, even if outside my research focus. Likewise, I endeavored to show a friendly attitude and encouraged the participants to direct the conversation wherever they felt comfortable.

### **Research Sites**

The study was conducted in three cities located in the southern part of Mali (see map Figure 1), Bamako, Bougouni, and Koulikoro.

#### ***Bamako***

Bamako was chosen because it is a vibrant modern capital city with a population of just over 1.8 million people (Britannica Book of the year, 2013). In addition, Bamako represents a good example of globalization—a significant issue in this study—as people in this city are generally known to be more cosmopolitan compared to other places in Mali and are attracted toward new things. Indeed, it is the most global city in the country.



**Figure 1. Map of Mali with Research Sites: Bamako, Bougouni, and Koulikoro**



According to the legend, the word Bamako in Bamanan, the most spoken language in the country, and means the back of the crocodile. The back represents the means of passage between the banks of the river Niger separating the two parts of the city. This city is comprised of differing social, ethnic, and economic groups from diverse backgrounds. People of different social classes, from the poorest to the richest, live in Bamako. My personal experience as a consumer, a caregiver, a wife, and a woman born and raised in Bamako also was a factor in choosing this city as one my research sites. The inhabitants of Bamako have long ago ceased using most traditional practices still known in many villages. Bamako is known for its administrative, industrial, and commercial activities as main sources of income for the population. The informal sector, mainly

occupied by women and young people, is an important part of the economy but is not typically taken into account in statistics about economic growth.

### ***Bougouni***

In contrast to Bamako, Bougouni and Koulikoro are included in order to investigate the difference in the perception or understanding of pollution between urban and rural women. The second research site was the town of Bougouni, a county in the region of Sikasso 147 km from Bamako with a population of 59,679 people (Census of 2009). Bougouni was specifically chosen because it is where I had personal contacts with a respectable family who could facilitate my connections with participants. Being introduced to participants by a woman from a respectable and well-known family was very important to establish confidence and overcome barriers with participants.

Moreover, Bougouni is still a typical village in Mali where people generally are known to be traditionalists that provided a good counterexample to Bamako and could draw out differences in attitude or experience between people living in rural and urban places.

Bougouni in Bamanan means “a small hut,” a reference to the multiple mud huts known to be present in this village when people settled there initially. In Bougouni, most inhabitants are long-time traditional natives sharing historical and social backgrounds.

Most people in this village are hardworking but poor. Furthermore, due to their attachment to traditional values, people there still take part in a secret society in which men are trained and initiated to develop knowledge of the plants for constructive and destructive purposes commonly known as *Komo* (Suzanne, 1995). Agricultural and livestock activities are the major source of income in this village.

## ***Koulikoro***

The third research site was the city of Koulikoro, the capital of the region of Koulikoro located at 60 km from Bamako, with a population of 43,174 (Direction Régionale du Plan et de la Statistique 2009). Koulikoro was specifically chosen because it is easily accessible from Bamako and represents a typical rural setting that could be compared to the urban setting of Bamako. As in Bougouni, people in Koulikoro also observe most traditional practices such as the weekly market day. During these market days many women traders come from neighboring villages to sell and buy goods at the market where I chose to conduct my interviews. The population is predominantly Bambara as well as Somono and Bozo, which are ethnic minorities in the country who are known to be fishers. Koulikoro is also known for some of the Malian historical sites such as the famous mountain where Soumangourou Kante, a king, disappeared mysteriously. As in Bougouni, Koulikoro is also a place where the majority of people live in poverty. The main economic activities in this town are agriculture and the commercial trades of fish and its byproducts.

## **Sampling**

I used snowball sampling to identify and choose the participants for this study. Having connections is important in reaching one's goals today and Mali is no exception. To be introduced by a well-known family was the most appropriate way to meet and facilitate my participants being comfortable talking with me. In Bougouni, I was recommended by one of my former schoolmates who originally is from Bougouni. She called her older sister to inform her of my arrival and the purpose of my visit. A few minutes before I arrived in the town, she sent her daughter to meet me at the bus station. I

was warmly received with hot water for a shower and food, a sign of hospitality in Mali. I stayed in their house during all my research in Bougouni. I planned to conduct my first day of interviews at the weekly market day. My friend's sister took me to the market and made the formal introduction to the head of the organization of women vendors in Bougouni market. That alone was enough for people to open up to me. Trust and confidence are very important as well as the social background of the person who introduces you. After I spoke to the leader of the women, the rest was easy.

I used the same method in Koulikoro and lived in the house of an extended family member who recommended me highly to his family. I did not personally know anyone in the household; however, I was treated with respect because of the person who recommended me. The elder daughter in the household, who was a vendor at the market, was my contact person. She introduced me to other women vendors she knew, which made my research easy. I first talked to a vendor whom I was introduced to and asked her if she could point to someone else who would be willing to talk to me and so forth. At the third site, Bamako, I used the same method. Since I am from Bamako, I was already familiar with the markets and some of the women vendors. At each site, I attempted to saturate my sample by talking to women with different attributes, such as age, how long they have been a vendor, how long they had been selling in their current market, and so on. I trusted this would capture any significant differences in perception or experience that might contribute to my research. Malian officials I identified and interviewed at the time of my research were all key actors in charge of environmental issues. They included the Prime Minister of Mali, Dr. Cheick Modibo Diarra; the Minister of Environment, Mr. David Sagara; the National Director for Sanitation and the Control of Nuisance, Mr. Felix

Dakouo; the Deputy Central Mayor of Bamako, Mr. Henry Makan Keita; and the Chairman for Rural Development and Environmental Commission at the National Assembly of Mali, Honorable Mahamane Adideye Maiga. My meeting with Malian officials was facilitated by Dr. Oumar Bouare, the Coordinator of C.A.P (La Cellule d'Analyse et de Prospective, Primature, Bamako), a department attached to Mali Prime Minister Office for which I worked before coming to the United States.

All my interviews with women vendors were conducted one-on-one and took place on market days. Market days are very busy and noisy, making it difficult to keep participants' attention during interviews. Since all participants were vendors, the interviews were frequently interrupted anytime a customer showed up. As a result, it was hard to know in advance how long an interview was going to last. The average interview was 30 minutes to 1 hour. I received both the written and the verbal consent from all my respondents to record the interviews and take pictures for my paper and future presentations. However, in order to respect the confidentiality of participants, I coded all the interviews of women vendors by region using numbers and pseudonyms but used the actual names of Mali Officials since they occupy public offices. Interviews were all conducted in Bamanan with the women vendors and French with Mali officials, and all were digitally recorded. I then transcribed and translated all interviews into English prior to analysis.

My interview questionnaire was composed of two parts. The first part of the questions started with basic information about the interviewee such as name, age, education, marital status and number of people in the household. This aimed at introducing the participants and helped give an idea about the quantity of waste the

family produced based on the number of people in the household. The answers to the question about education may indicate how women with basic education and those with no or limited education react to plastic bag pollution. The second part of the interview questionnaire focused on direct as well as open-ended questions. The goal was to know the interviewees' perspectives about the use of plastic bags and the changes it made in their lives. The two tables below include interview questions of all participants. Table 1 shows the interview questionnaire for women vendors at the market, and Table 2 the interview questionnaire of Mali Officials during this research.

**Table 1. Interview Questionnaire of Women Participants**

<b>NO.</b>	<b>Interview Questions</b>
1	Could you please tell me your name, age, education, your marital status and the number of people in your household?
2	Why did you become a vendor at the market?
3	How long have you been selling at the market?
4	What products do you sell at the market?
5	What do you use to wrap the products your customers buy?
6	Where do you get your plastic bag supply?
7	How many plastic bags are in a packet?
8	How many packets of plastic bags do you use in a day?
10	Do you pay for the bags? If yes why do you give it for free to your customers?
11	Do you fear to lose your customers if you do not put their items in a plastic bag?
12	How do you feel about plastic bags?
13	Do your customers bring their own shopping baskets or bags to the market?
14	Can you tell your customer to bring their own reusable shopping bag or basket?
15	Do you know how plastic bags are made?
16	Do you know that plastic bags are harmful to health and Environment?

<b>17</b>	What do you think can be done to reduce the effects of plastic bag pollution?
<b>18</b>	Do you shop with your own basket?
<b>19</b>	If you had the choice will you use another alternative for example paper bags or bags made with coconut fiber? Why? And why not?
<b>20</b>	What do you think Mali Officials could do to about plastic bag pollution?

**Table 2. Interview Questionnaire of Mali Officials**

<b>NO.</b>	<b>Interview Questions</b>
<b>1</b>	Could you please introduce yourself and tell me since when you occupy this position?
<b>2</b>	Can you tell me the duties and responsibilities of your Department?
<b>3</b>	Is there any national policy in Mali regarding pollution in general and plastic bags pollution in particular? Are there any recycling at the national level?
<b>4</b>	Recycling is done in the West and sorting is done first at the level of most households. Can we replicate this in Mali?
<b>5</b>	How did Mali government come up the idea to ban plastic bags? Do you think that banning plastic bags is the best solution?
<b>6</b>	What are some of the additional accompanying measures the government intends to take to support the ban of plastic bags?
<b>7</b>	Instead of banning plastic bags, why didn't the government put in place a reliable waste management system?
<b>8</b>	Mali officials collaborate with pharmacists and keep emphasizing that they are the biggest users of plastic bags, how about women? What role can women vendors specifically play in addressing this issue? Why don't you include women in the process?
<b>9</b>	Is your department consulted when low-income houses are built or when town planning is made in order to make provision for appropriate waste transit centers?
<b>10</b>	Are you proud of your capital, Bamako and your country, Mali in terms of sanitation and cleanliness?
<b>11</b>	Rwanda is one of the African countries to ban plastic bags. Have you tried to look at their model and learn from their successes and failures?
<b>12</b>	Can you tell me about funding allocated to your department by the government for the protection of the environment?

<b>13</b>	I know that there a liquid waste management center in Bamako and would like to know if there is also a solid waste transformation center?
<b>14</b>	Right now when the waste is deposited in transit centers what happens next?

### **Significance of the Study**

This research provides new insights regarding the issue of plastic bag pollution by focusing on women’s perspectives and their potential role in the policy making process. It also contributes to expanding and enriching the existing literature on plastic bag pollution by exploring an understudied perspective on a national and global issue. This is significant because previous studies on the issue have mostly focused on the consequences of this problem on the economy, while ignoring other pertinent aspects of the issue such as the gendered component of the issue. This research intends to shed light on women’s perceptions and understanding of plastic bag pollution in Mali. By exploring plastic bag use through a gendered lens, I draw from and extend insights from the intersections of the gender, environmental justice, and development literatures to argue that plastic bag pollution is a gendered environmental justice issue, and it is important to include women in the policy formulation process since they are the primary consumers of plastic bags in order to efficiently address the issue.

Other positive impacts of this project include the empowerment of the women participants and the promotion of diverse voices in policy planning. The women I interviewed are among the least privileged groups in Mali and as such they do not typically have a voice in policy matters nor is their knowledge or experience generally valued in these circles. My research aims to create an opportunity to make women more visible and empower them by adding to their existing knowledge regarding plastic bags. During interviews, I shared new information about plastic bags and pollution. The



additional knowledge makes women better equipped to make well-informed consumption choices. Additionally, making information accessible to them could be empowering for women who may then collectively organize and instigate change. My research centers their perspectives on a pressing environmental issue that is central to their experiences and the communities in which they live.

Furthermore, I will share my findings with the National Assembly Commission for Environmental Issues and the Ministry of Environment, as well as with the Cell of Analysis and Perspectives (CAP), a strategic department in the Mali Prime Minister's office that is the think tank of the government. Since they are the policymakers, I expect to inform and provide them with a broad understanding of women's perspectives on plastic bag pollution. I intend to add to the conversation in favor of legislation banning plastic bags in Mali as was already done in Rwanda, Kenya, and South Africa. This is important because it could facilitate ordinary women's voices being heard in the policy process that may lead to a ban on plastic bags in Mali. As such, Mali could be an inspiring model for other countries in the West African region. NGOs operating in the environmental sector could also use the results of my research in designing their activities.

### **Limitations of the Study**

This study was conducted during six weeks in Mali, which resulted in two limitations. First, I was only able to focus on the perspectives of women vendors in local markets. Even though my focus was on women vendors' perspectives, with more time, I would have included male vendor perspectives and interviewed consumers more systematically, as well as plastic bag manufacturers to also know their perspectives about

plastic bag production and consumption. Despite this limitation, the approach chosen allowed me to gain greater insight into the daily use of plastic bags by women vendors and their clients. Second, I was unable to study women's behavior and attitude toward plastic bags over a relatively long period, which would have provided me with additional information. However, I was able to observe and draw interesting conclusions from the three research sites. Additionally, I was also able to learn the perspectives of some Mali officials who I was able to interview about issues of women and plastic bag pollution.

Another limitation is the lack of reliable data on women's use of plastic bags in Mali. During my literature review, I found very few studies looking specifically at the relationship between women and plastic bag utilization in Mali. Because of the lack of data, I relied on my own cultural understanding of the issue. I addressed this limitation by looking at studies conducted in other countries.

Finally, it is critical to mention the special circumstances under which I conducted this field research. My home country, Mali, which was considered to be one of the most stable democracies in Africa, was falling apart. The northern area, that covers more than two-thirds of the country, was under occupation by rebel groups and the south was under the control of coup leaders who toppled the democratically elected regime. This situation made the country unsafe not only for a field research, but even for travel.

### **Structure of the Thesis**

This chapter includes an introduction to my research project, states the research design and research questions, and discusses my approach and the limitations I faced during data collection. Chapter II discusses the existing literature and concepts for understanding gender, environmental justice and development. Chapter III provides

background information about Mali, including the ongoing institutional and security crisis, as well as the conditions of women in Mali. Chapter IV presents my research findings and explores how gender and development are currently being approached in Mali. Chapter V concludes the thesis with a summary of key findings and recommendations related to the participation of women in policy formulation around plastic bag issues.

## CHAPTER II

### LITERATURE REVIEW

#### **Gender, Environmental Justice, and Development**

Advancing gender equality, through reversing the various social and economic handicaps that make women voiceless and powerless, may also be one of the best ways of saving the environment, and countering the dangers of overcrowding and other adversities associated with population pressure. The voice of women is critically important for the future of the world – not just for women’s future.

Amartya Sen, *The State of World Population*,  
2001p.37.

In the last decade there has been increased interest in the relationship between women, environmental justice, and development. This relationship has become a leading topic at development summits worldwide such as the United Nations Conference on Sustainable Development 2012 in Rio de Janeiro and the International Women’s Earth and Climate Initiative 2013 in New York City. Clearly, the international community recognizes that gender is a key component for the success of development projects and policies addressing environmental issues.

In this chapter, I will provide a brief overview of gender inequality, women’s role with respect to environmental justice, and gender and development. I also examine the differences between the ways that women’s relationship with the environment have been conceptualized in the literature, as some thinkers propose that women have a natural connection with the environment, while others want to avoid such possibly essentialist generalizations. Therefore, I intend to review what the literature says regarding the intersection of women, environmental justice, and development.

## **Gender Inequality**

The terms sex and gender are sometimes mistakenly used interchangeably. Gender (masculinity/femininity) is different from sex (male/female). In contrast to sex, which is widely understood as biological, Momsen (2010) argues that gender is a socially acquired notion of masculinity and femininity by which women and men are identified. The socialization of girls and boys, however, differs based on cultural notions of gender. For instance, in patriarchal societies, girls are raised to fulfill traditional roles as caregivers and housewives. Likewise, in these same societies, boys are taught to become heads of the household and breadwinners for the family.

As a result of the ways that boys and girls are socialized differently, gender roles are formed and reinforced by the society. As defined by Momsen (2010), gender roles are the household tasks and types of employment a society assigns to men and women. They vary depending on the type of society, culture, and class. Historically, a man's role has been to earn money and support the family and a woman's role to take care of the home and family. As an example, Momsen (2010) notes that in Polynesia, a family without daughters will raise a son to fulfill a daughter's role; thus supporting the idea that gender is acquired. These gender roles lead to gendered divisions of labor that can create gender inequalities.

The degree of gender inequality depends upon several factors, including how rigid gender roles are in a society. In some cultures, gender roles are less rigid and even interchangeable as there are more breadwinner wives and more stay-at home fathers. For example, Momsen (2010) observed that in Accra, 90 percent of vendors are women,

while in Algeria almost all vendors are men. This is an indication of how culture assigns gender roles differently.

With the realization that gender roles are socially-constructed, feminist thinkers have pointed out that in patriarchal societies, which are found across the globe, gender roles are not well-balanced and do not provide equal opportunities to men and women. Furthermore, it has long been noted that such inequality can have a disempowering effect on women. For instance, Simone De Beauvoir argues in *The Second Sex* (1952) that the history of women's subordination has led to women believing that they cannot make a positive impact in the world. Thus, as I will discuss later, it is important for development initiatives to empower women in the name of making positive environmental changes.

Adam Ba Konare (1993) argues that when gender roles are very rigid there are strong expectations regarding the roles men and women can play. As in other societies and cultures, the notion of masculinity and femininity in Mali is constructed in ways that result in clearly defined gendered divisions of labor. The gendered division of labor, where women carry a double burden of both work outside the home and domestic labor, creates hardships for women. As evidenced by Agarwal (2011), women and girls bear a disproportionately high share of the burden of poverty in patriarchal societies and in many less developed countries.

Despite the double burden women face when working outside the home, the income women earn has positive affects for both the woman herself and her children. Sen argues that when women are given opportunities that once were only given to men they perform better. This means that gender equality is important because it has positive effects on things as basic as child nutrition and education. Momsen (2010) states that

literate mothers have better-fed children who are more likely to attend school. Indeed, it is now widely accepted in the international development community that investments in women bring valuable returns in numerous areas of development. This is likely why Goal Three of the Millennium Development Goals is to promote gender equality and empower women.

Additionally, in many developing societies, women have been disadvantaged compared to men with regard to their access to tools such as education and employment opportunities that can help them pull their families out of poverty. The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines the literacy rate as the percentage of people who can read, understand, and write a short, simple statement. According to the World Bank (2013) development indicators on education in Mali, the youth literacy rate from 2005 to 2011 for boys aged 15-24 was 56 percent, compared to 34 percent for girls. The adult literacy rate for male adults 15 years and older was 43 percent, compared to 20 percent for female adults. Clearly women lack educational opportunities in Mali.

Comparing the male and female literacy gap in Mali to Senegal and South Africa helps situate gender inequalities within the diversity of sub-Saharan African. For example, the youth literacy rate for the same period in Senegal was 74 percent for young boys and 56 percent for young girls; the adult literacy rate was 62 percent for males and 39 percent for females (World Bank 2013). In South Africa, the rate was 97 percent for young boys and 98 percent for girls and 91 percent for male adults compared to 87 percent for female adults (World Bank 2013). This comparison shows that the educational opportunities for both men and women are quite high in South Africa,

average in Senegal but considerably lower in Mali. Due to the lack of educational opportunities, many women in Mali cannot support themselves.

As a result of gender inequalities, as indicated by the gap in literacy rates in Mali, women are rarely included in the planning of development projects. Before discussing how women have been marginalized from the development process and efforts to increase women's participation in development, it would be appropriate to talk about women's relationship to environmental justice.

### **Women and Environmental Justice**

Shiva (2005:1) refers to the environment as the "Earth family – the community of all beings supported by the earth." Bullard (1990) expands this definition to include all the spaces where we work, live, and play. This study employs both Bullard's (1990) and Shrader and Frechette's (2002) definitions of environmental justice that both state that disadvantaged groups in society, including women and the poor, disproportionately bear the burdens of the environmental ills of contemporary modern society, such as pollution, hazardous waste, and environmental degradation. This study explores the issue of plastic bag pollution through the experiences of women vendors in the markets, who are frequent distributors and users of plastic bags and are likely to be among the most disadvantaged groups in Malian society—poor women. As argued by Shrader and Frechette (2002), disadvantaged groups in society have fewer opportunities to take action to reduce the environmental burden imposed on them. In the same vein, Wangari Maathai (2009) asserts that environmental justice is demonstrated as inequality in exposure to environmental problems, inequality in access to decision-making, and inequality in



access to environmental resources. She claims that women are typically affected more directly than men by environmental issues.

For instance, Braun's (2011) research on a mega-dam development project in Lesotho demonstrates how large-scale development can reorganize natural resources away from poor communities. She contrasts the dominant narratives that justified the water scheme that resettled thousands and appropriated the agricultural lands in proximate poor communities, disrupting the means of production for thousands more. While authorities justified the mega-project on behalf of the poor, many of the local consequences of the Lesotho Highlands Water Project LHWP created additional labor burdens for women—burdens that were invisible in the dominant narrative of the project and went un-compensated. The project actually reinforced and reproduced gender inequality as women could not receive compensation for lost resources, such as land, at the same time that women subsidized the project by working longer hours to make up for losses to the LHWP (Braun 2005). As Braun's work reveals, large-scale development projects in developing countries, or third world development more broadly, might best be understood through the combined lenses of gender and environmental justice.

Disadvantaged groups worldwide continue to advocate for more equitable distribution of both the benefits and the burdens stemming from the use of natural resources and economic growth. Women are important within such movements because they are not only part of the problem, but they can also be part of the solution to address these issues.

Ecofeminists such as Shiva (2005) argue that women have a special connection with the environment and that this is the basis for both women's special knowledge in

regards to nature and the problem of women being blamed for environmental degradation. Yet critics of this view, such as Mueller (1995), argue that it is problematic to think of women as one category with one experience as women's lived realities are diverse, even within the same country. Mueller gives the example of a female doctor living in the capital city and a woman vendor living and selling knitted sweaters in the informal sector in a rural area who have very different lived realities. The danger, she argues, is that by aggregating in order to capture the patterns of women's experience, the results do not capture the lived realities of any of them. Agarwal (2011) argues for a feminist environmentalist approach that does not assume an essentialist connection of women to nature, but rather one that considers how the social construction of gender within cultures assigns gender roles within a gendered division of labor that often places women in direct relationship to nature. Many women, particularly poor women, are positioned to rely directly on the environment to fulfill their roles and duties, such as being farmers, fetching water, collecting fuel wood, doing food shopping, and handling household waste. This gives women direct knowledge of the environment and places them in a position likely to effectively address environmental issues such as plastic bag pollution. I follow Agarwal's approach in my analysis and start from the notion that Malian women do have different lived realities, but also share some commonalities that bind them, such as gender subordination within a patriarchal society that has rigid ideas about gender. Irrespective of their lived realities, women are more often affected by oppression and their voices typically do not count in policymaking. These concepts and women's experiences are relevant to my study as I mainly focus on the perspectives of

women vendors in the market who have been historically among the less privileged members of the society in Mali.

Third World women experience gender subordination differently than women living in more developed countries. Momsen (2010) claims that the effects of this subordination are worse for Third World women due to persistent patriarchal social structures and the lack of economic opportunities. This shared experience of oppression also puts women in a position to be able to make changes regarding environmental justice. Therefore, gender analysis is important in the formulation of not only environmental issues but also in development projects.

Although there is a need to include women in development planning, women are often perceived as contributing to environmental degradation, which is unfair. For example, mostly poor women are blamed for deforestation simply because they gather fuel wood for their households for cooking and heating. They are wrongly accused for deforestation because privatization has taken land from them, forcing them to go farther to look for cooking wood. The need to survive causes women to develop a closer relationship with nature and the environment. Women are also close to the environment because they sometimes need to collect wild medicine for their families or community (Braun, 2011).

Following feminist environmentalism, Momsen (2010) contends that since women have a close relationship with the environment they should be included in all environmental policy initiatives in order to achieve environmental justice. She argues that a gender-based approach to environmental issues can identify how men and women are affected differently, which should lead to improvements in the sustainability and equity

of environmental policy. Scheinberg, Muller, and Tasheva (1999:3) argue that, “Rather than looking at gender as a problem, gender analysis should be seen as a tool or a lens through which a project can take on new dimensions.

By looking through the gender lens, muddy issues can become clear and intractable problems appear in a new and fruitful light.” A gender-based approach can be instrumental in understanding the many dimensions of privilege and inequality and for achieving environmental justice.

### **Gender and Development**

It is important to define development as this thesis focuses on the relationship between women, environmental justice, and development. Shields (2013:62) provides one definition of development as, “the systematic intervention in and restructuring of other countries in order to improve their standard of living.” Historically, development efforts have aimed to improve standards of living by promoting nationally organized economic growth but in the era of globalization, a better definition of development is “globally organized economic growth” (McMichael (2008: xxxviii). In looking at development purely from an economic standpoint, women have generally been excluded. Beginning in the 1970s and continuing to the present day, there have been efforts to include women in development. Each attempt has brought major contributions to development, but has also had its limitations.

The first approach attempting to include women in development was Women in Development (WID). WID was initiated in 1970s by Esther Boserup, an economist, who brought innovations in development by suggesting the inclusion of women in the development process. Her study of women’s roles shaped how important women’s work

was to the economy. Prior to the WID approach, development efforts by major aid agencies failed because women were not included. In addition, development was measured by Western values, technologies, and institutions, ignoring local cultures and knowledge. WID was the first step toward women's recognition but had limitations as it did not address the structural barriers women face.

The second approach, Gender and Development (GAD), built on the WID approach but critiques it as not addressing social relations and power. GAD argues for the need to think about power and power structures and to look for new initiatives to empower women by transforming unequal social and gender relations. GAD argues that integration into development as suggested by WID may actually silence women, be used to continue to marginalize women's interests narrowly, or to continue to conflate men's interests with "real" concerns (politics, economy). However, both WID and GAD failed to incorporate culture as lived experience, which could have done more to make the diversity of women and women's interests more visible and to consider more critically issues of gender and sexuality, including masculinity and queer identities.

A Women Culture and Development (WCD) approach, as articulated by Bhavnani, Foran, and Kurian (2003), builds on culture as lived experience and brings women's agency into the foreground. This helps development actors understand how inequalities are reproduced and challenged.

Although the WID, GAD and WCD approaches have contributed to women's participation and empowerment within development, these approaches failed to fully address gender inequalities. Gender, of course, cannot be looked at in isolation, and I make the case for bridging a gender analysis with the concept of environmental justice in

order to best analyze the increasing waste associated with modernizing Mali, namely plastic bag pollution. In my analysis of gender, environmental justice, and development, women are central to both understanding and addressing these issues.

## CHAPTER III

### MALI: ECONOMY, POLITICS, AND GENDER

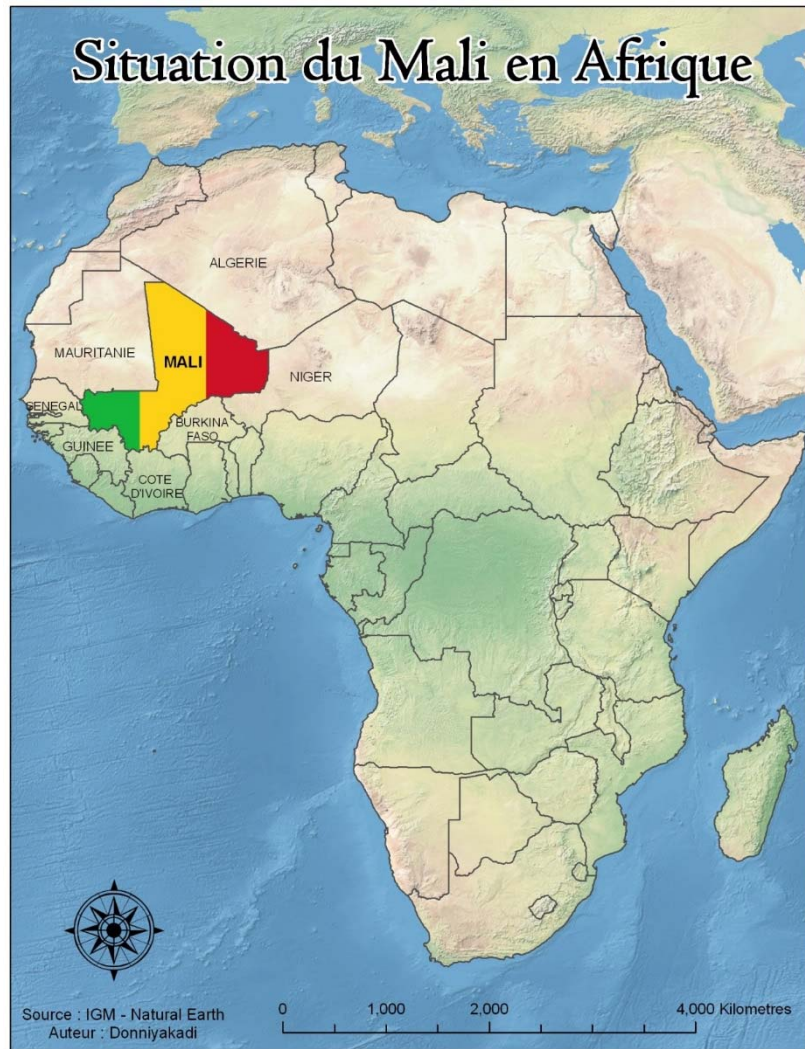
#### General Country Information

Located in the center of West Africa, Mali is a landlocked country with 1,240,192 Km<sup>2</sup> and a population of 14,528,662 (Britannica Book of the year, 2013) (see Figure 2). About twice the size of the state of Texas, it is bordered by seven countries. The official language is French; however, there are other widely spoken local languages including Bamanan, the most spoken language, Fulfulde, and Sonrai. Even though the constitution of Mali describes the country as a secular state, it is estimated that about 90 percent of the population are Muslims, 5 percent traditional animists, and 5 percent Christians (Britannica Book of the year, 2013). In the 2011 Human Development Report, the United Nations Development Program has ranked Mali as 175 out of 187 countries.

The economy of the country relies mainly on livestock, mining, and agriculture although in recent years, agricultural production has declined. This crisis has exacerbated the movement of young people from rural areas to big cities. In addition to Bamako, the country is divided into eight administrative regions: Kayes, Koulikoro, Sikasso, Segou, Mopti, Timbuktu, Gao, and Kidal. According to data compiled by the Mayor's Association, a global network of city officials (UN, 2007), Bamako is estimated to be the fastest growing city in Africa and the sixth fastest in the world. Many villagers move to the capital city to seek job opportunities. This massive rural to urban migration has created increased consumption and the need for sanitation especially in public places.

Nationally, Mali made a lot of courageous decisions in order to improve the living conditions of the citizen. These decisions include democratization with the advent

**Figure 2. Map of Africa with the location of Mali**



of the multiparty system and the adoption of a decentralization policy.

At the continental level, Mali is signatory of the African Charter on Human and People's Rights. Internationally, Mali has signed and ratified many conventions and international treaties such as the Convention of the Elimination of All Forms of Discrimination against Women.



### **The Ongoing Institutional and Security Crisis**

A double institutional and security crisis swept through Mali at the beginning of 2012. At the time this research was conducted in August 2012, the situation was not better. Indeed, from its independence in September 1960 to date, Mali has been facing different levels of armed violence by Tuareg rebels. A rebellion led by a Tuareg separatist group called MNLA (Le Mouvement National de Liberation de l'Azawad) fought against the central government and claimed a territorial independence and their so called state, Azawad (Figure. 3).

**Figure 3. Map of Mali Divided into Two Countries by the Tuareg Rebels (Wars in the World, 2012)**



As a result of the conflict, dozens of Malian soldiers were killed. Additionally, reports that the soldiers were sent to fight the rebels without sufficient food supplies and

adequate weapons trickled back home. This situation led to frustration among the armed forces and the general population in the country. Women hearing from their husbands, sons, and brothers that their situation on the battle ground was critical decided to handle the issue in their own way.

On January 26, 2012, for the first time in the history of the Northern conflict, the spouses, sisters, and mothers of army soldiers serving at the time in northern Mali marched to the state house to protest and to require a meeting with the then president, Amadou Toumani Toure. This was an unprecedented initiative from women in a patriarchal country, where their traditional role was limited to caregiving. In the presence of his entire cabinet, women courageously told the President to provide their husbands, sons, and brothers with adequate means and resources so that they could defend and restore the territorial integrity of the country.

Furthermore, Malian women, who are generally expected to be submissive and respectful of traditions and customs, asked the President face-to-face to resign if he could not handle the northern issue as their husbands, brothers, and sons were being killed by rebels. They came to the rescue of the men who, either because of military rules or a fear of the hierarchy, had kept quiet. The meeting of women with the President, which was shown live on national television, was a profound moment for women and the ice-breaker that began to shift conditions. Other Malians living in the country, as well as those abroad, including the military, started to openly criticize the government's inability to take appropriate measures to solve the northern issue. The President promised the women to take appropriate and necessary measures to fix the issue and resolve the conflict.

Unfortunately on March 22, 2012, a group of young rank and file military toppled the President (Figure 4). The coup was followed by unanimous international condemnation and economic sanctions on a country that was already in deep economic crisis. These economic sanctions further deepened the hardship in which Malian women were living.

**Figure 4. Malian Troops who Carried Out a Coup in March Guard a Street After Renewed Fighting in The Capital, Bamako. Forces Battled Troops Loyal To Ousted President, Amadou Toumani Touré , (Maliweb, 2013)**



The Islamic groups joining the rebels to take over the northern part of the country worsened the situation by making the central government to fight two enemies at the same time (Figure 5). They forcefully imposed their Islamic rules on women and young girls requiring them to wear burka and stopping them from attending school. As a result, a refugee crisis ensued that displaced thousands of women and children in neighboring

countries. This situation created additional environmental degradation and sanitation issues for women in these camps. Generally, humanitarian aid to refugees' camps includes providing packaged food in plastic bags and containers, increasing plastic waste pollution.

**Figure 5. Islamic Combatants in Kidal, (Maliweb, 2013)**



The present study on plastic bag pollution conducted in urban and rural areas could have been extended to these refugee camps to emphasize the general relevance of this problem in Mali. While this was not possible due to the limited scope of this research, I argue that centering the perspectives of women vendors—a ubiquitous and persistent part of Malian communities for a very long time—reveals how plastic bag pollution is part of the everyday lives of women in Mali. I now turn to a brief discussion of the conditions for women in Mali.

## **The De Jure Conditions and De Facto Realities of Women in Mali**

The constitution of Mali stipulates that “women and men have equal rights.” Under the law, men and women have the same rights but their lived realities are different. Mali is a patriarchal country with little rights and opportunities for women. Adam Ba Konare (1993) conducted an analysis of the roles and images of women in the history of Mali that, in my analysis and experience, reflects the real conditions of women in Mali. She argues that women are the great martyrs of history because they carry all the weight of the society on their frail shoulders. Without their efforts, she argues, our planet will be swallowed. Paradoxically, she shows how women remain de facto eternal minors in Malian society. Women are expected to be submissive, and they are often exploited, sometimes mutilated, and in practice have limited rights.

While Adam Ba Konare’s (1993) assertions are strong, and I might temper her conclusions a bit, her analysis in Mali represents larger patterns of gender inequality. In spite of the improvements and successes achieved in empowering women, the condition of women worldwide still remains an issue. Women are still victims of gender discrimination in most areas of life, often working more than men while being paid less, and they are more likely to live in poverty (Momsen, 2010). They have little or no land ownership even though they represent a great agricultural labor force. They are also affected by land grabbing by multinational companies. They have little or no decision-making power even in a country like Mali where they constitute the majority.

Irrespective of the country, gender is socially constructed, and men and women are typically assigned gender-appropriate roles by the society. Momsen (2010) argues that gender roles are the household tasks and types of employment the society assigns to

men and women. They vary depending on society, culture and class, and Mali is no exception. Indeed, traditionally, Malian society expects men to go out to the farms, factories, or other places to work, earn money, and support their families while women stay at home to take care of the whole family, do all the cooking, and cleaning. (Adam Ba Konare, 1993). On the farm, women are also assigned the “easy” parts of the work such as crop sowing, weeding, and harvesting while men are in charge of the “hard” ones. The men also have the power to make all decisions regarding the harvest.

Through childhood socialization, girls learn how to become women and boys are taught how to become men, and these are often constructed in opposition to each other with more or less rigid rules to keep the gender order. For example, in order to engender women in the role of caregivers and cooks, it is even taboo for a man or a young boy to enter the kitchen and touch certain cooking utensils in Mali. Also, in many families, girls’ education is less valued than boys’ education. Therefore if a family can only afford to send one child to school, the boy is likely to be chosen.

In most traditional Malian societies, a woman is considered a minor even when she reaches adult age. The phrase *Muso Kuma* (in Bamanan, the most commonly spoken language in Mali, *Muso* means women and *kuma*: word, speech women word) is not taken seriously because it is believed to be without foundation, inconsistent, and irresponsible (Adam Ba Konare, 1993:27). Women are marginalized both in their paternal and matrimonial homes. A woman is labelled *Walisojola* (born to build somebody else’s house) in her father’s house and *dunnan* or *wali mogo* (stranger) in her family-in-law’s home. As such, she is excluded when decisions regarding important family issues are made. Usually her husband prefers to consult his brothers or older sons.

They inform her when decisions have been made. In her household, she is also considered an object. The dowry, even though symbolic, constitutes an economic transaction, and her husband and his brothers consider her an asset, a thing that they have purchased and can use at their ease. The younger brother of her husband, when joking with her, will call her *An ka Nafolo* (our wealth) (Adam Ba Konare, 1993:27).

Furthermore, if one of her children disobeys an uncle, the uncle will remind his nephew that, “We are the ones who paid the dowry of your mom” (Adam Ba Konare, 1993:28), meaning you better behave! As such a wife is part of her husband’s wealth and assets and is part of the inheritance if her husband passes way. This mentality and the expectations regarding a woman’s role makes women’s lives difficult, even in families where they are loved and treated kindly. In addition to caring for her husband, she has to be at the service of her husband’s parents and brothers, make hot water available for showers early in the morning for all the household, fetch cooking wood, cook breakfast, and prepare children for school where necessary. In addition, she is required to be polite, cheerful, and submissive. While she is struggling to carry out these duties, she is also expected to fulfill her duty as a wife to her husband. If not she is considered a bad woman and may be treated badly.

In spite of all these chores, women bravely carry out, women are believed to be weak. This is the common rationale for why there are few women in leadership positions, while men have the reputation of being strong and rational. Many people think that choosing a female leader makes a country weak and less effective. However, in traditional Malian society, Adam Ba Konare (1993) argues that there were a few important exceptions to this contemporary stereotype that portrays women as weaker and

as more emotional than men. For example, in the Malinke society under the Mali Empire, it was the sister of the king or the son of the sister who was designated to be his successor. The same was true for the Soninke in Wagadou, capital of Koumbi Saleh.

It is also important to mention the role of women in Islam, as 90 percent of the population in Mali is Muslim. I am, however, cautious in my assertions, as I am not an expert in this field. Suffice it to say that it is widely known that Islamic laws and cultural customs impact the lives of women in Mali and sometimes are conflicting secular parts of Malian culture. For example, it is still not clear if female genital cutting is a religious or cultural ritual in Mali.

Besides the constitution in Mali, a document called: *Le code du Mariage et de la tutelle* (hereafter referred to as the Family Code) regulates the relationship between men and women in marriage and in the household. It was adopted in 1962 following a large consultation of religious and traditional leaders as well as women's representatives. Its adoption was then considered a revolutionary decision because of the break with certain "backward" customs. For example, it stipulated that a woman could no longer be married without her consent. The Family Code also raised the legal marriage age to a minimum of 15 years for girls and 18 years for boys. Additionally, it stood against the "sale" of women and fixed a symbolic amount for a dowry at 20,000CFA for young girls and 10,000CFA for a woman contracting a second marriage.

In spite of these positive changes, that are largely regarded as favoring the empowerment of Malian women, many of the articles in the "Family Code" had shortcomings vis-a-vis women and needed to be amended over time. Article 34 of the Family Code stipulates that "the husband is the head of the family, he is the main



provider for his family and chooses the location of the residency of the family and his wife has to accept that choice and live with him all the time.” In the same vein, Articles 32 and 38 of the Code respectively say: “The husband owes protection to his wife and the wife obedience to her husband,” and “The wife cannot start a business or commercial activity without the authorization of her husband.” In terms of inheritance rules, boys are entitled to twice the amount given to girls. These Articles are proof that this Code intended to empower women actually continues to hinder their emancipation.

An additional Code called *Code de Parente* (Parent Code) complements the Family Code and stipulates that a woman should be consulted before any of her minor daughters is married. She can also report her husband to a judge if he is incapable of fulfilling his role as a father. However, in Mali there is always a big gap between laws and reality. Very few women will dare report their husbands in the case of their incapacity to fulfill their role as fathers. Article 30 of the Code is also detrimental to women and children as it does not recognize a child born outside of marriage.

Similarly, the Mali Labor Code promotes equality in wages between men and women but differs in practice as women workers pay more income taxes than men. In its Article 16, Mali Labor Code stipulated that high administrative positions are open to both men and women except the position of Territorial Command (Governor), which is strictly reserved for men.

Despite this dark picture, in the last few decades, gender roles have changed and the conditions for women have improved worldwide. There are more breadwinner wives and women as heads of the household. In Mali, following the March 26, 1991, event Article 30 of the Labor Code was cancelled and, for the first time, a woman was

appointed governor of Bamako, Mrs. Sy Kadiatou Sow (Adam Ba Konare, 1993). In April 2011, Mrs. Cisse Mariam Kaidama Sidibe was the first woman appointed to the position of Prime Minister in Mali replacing Modibo Sidibe who resigned in order to contest presidential elections. She was removed and reported as detained by the coup leaders following the coup d'état of March 2012. At the time, public opinion in Mali reported that her appointment was an “empoisoned gift” to women because it was a hard time for the country and may make it difficult for women to become high-level leaders in the future.

Mali has signed most international agreements related to the improvement of the conditions for women. Today men and women are equal before the law in Mali but women are still hindered by social and economic roles that are likely to continue to limit their empowerment. For example, there is still no pending legislation to ban the practice of female genital cutting that is done to the majority of women. Even though there are campaigns run by a few local organizations, the topic still remains a taboo.

Indeed, women’s influence in Mali has been severely limited. This situation continues today as evidenced by the appointment of only four women among the 34 ministers named in the current government and only 15 out of 147 members of the National Assembly of Mali. Mali pays a price for women’s limited voices; their absence adversely affects priorities, policies, and programs related to such vital development issues as quality of livelihood, nutrition, education, healthcare, and literacy, to name just a few.

The family code was amended in 2010 to give greater freedoms and rights to women. However, it was sent back to the National Assembly for a revision following the

protest by the High Islamic Council. The latter contested approximately twenty-two articles of the new Family Code. For example the new code stipulated that women and men have equal inheritance rights, while Muslim traditions grant to a woman only half of the inheritance share given to her brother. Another change in the new code that members of the High Islamic Council contested was that women would no longer need their husbands' permission to work. In December 2011, the Family Code was amended once again by the National Assembly and the most controversial articles were modified, as the country could not afford to face another division. (Maliweb, 2011). Back in 1995, the 4th International Conference of Women in Beijing was a great ice-breaker in the situation of women in Mali but also a double-edged knife. On the one hand, the prejudice toward women worldwide was officially recognized by the United Nations who recommended equality between women and men in terms of access to power, leadership, and decision-making. However, men in Mali saw the Conference as a threat to their male authority, especially within the household. Men jokingly told women that they should "go and live in Beijing" if they did not want to be submissive wives.

Despite these tensions regarding change, significant strides in terms of development and women's status have been made, while there remains much to be done. Women in Mali are not only affected by economic and social hardships, they are also affected by environmental issues such as pollution which are increasing, in part, as a result of globalization.

### **Decentralization and Waste Management in Mali**

Historically, environmental protection has been a priority of Mali's government. As evidence of the interest of the Malian government in environmental protection, Mali

has been a signatory of the Rio Convention and on the Convention for the Protection of the Ozone, among others, at the international level.

At the national level, Article 15 of Mali's Constitution stipulates: "Each individual has the right to live in a clean environment. The protection, and the defense of the environment, and the promotion of the quality of life is a duty for the government." In addition, Malian authorities in 1998 adopted a document called *The Politique Nationale de l'Environnement* (The National Environmental Policy). The document urges inclusion of environmental dimensions in every policy, program, and development action carried out by the government.

Including the protection of the environment in the country's Constitution is a significant expression of the political will and the determination of the authorities to protect the environment. The *Direction Nationale de l'Assainissement et du Controle des Pollutions et des Nuisance* (DNACPN) was created in 1998 to take care of all issues related to sanitation and waste including plastic bags. Prior to the creation of the DNACPN, the *Voirie* was primarily the government agency in charge of waste management in Mali from the early days of its independence. The agents of the *Voirie* used to take care of waste and waste removal, and the system was largely perceived as efficient. However, with the adoption of the decentralization policy by the Malian government in 1993, the government shifted power to local counties and relied on them to take care of their own waste. This shift of political power was not followed by the transfer of adequate resources. As a result, sanitation and environmental degradation caused by waste and plastic bags, in particular, became worse.

The United Nations (2006) defines decentralization as a process through which powers, functions, responsibilities, and resources are transferred from central to local governments. If applied correctly, decentralization is thought to be a way to promote participation and inclusive development. Benjamin (2008: 2255-2276) argues that decentralization aims to, “harness the abilities, knowledge and incentives of rural people.” When Mali adopted a decentralization policy in 1993, the goal was to transfer power to local counties and give them the opportunity to make development choices according to their needs. Such needs included the development of basic infrastructures such as schools, health centers, the promotion of sanitation, and the protection of the environment. Local authorities such as mayors were to ensure that basic services to community members are covered.

According to many observers, the decentralization policy in Mali is one of the most ambitious policies in Africa, allowing the creation of 702 local counties. In September 2013, during the commemoration of the 20<sup>th</sup> anniversary of the adoption of the policy, representatives from the 702 local counties met in Bamako for a review of the decentralization policy. The participants at the conference concluded that the decentralization policy did not fulfill its initial goals. This failure, according to many representatives, was due to the fact that political power was transferred, but financial resources did not follow. As a result, the local officials had authority to make decisions but no resources to implement projects and programs. As a consequence, all government sectors suffered, including sanitation and waste management.

The central government was initially in charge of waste removal. However, at the advent of decentralization, waste management was also decentralized and local

communities took over. As they were not prepared to find alternative funding, most of the promises could not be fulfilled, and sanitation and waste removal services were in jeopardy. Prior to decentralization, the *Service d'Hygiene*, the government agency in charge of waste removal and sanitation, made sure that all waste was removed from designated waste collection sites. They were also in charge of fining people who did not put garbage appropriately in the collection sites.

The shift of power to local communities did not achieve the expected goals to meet local needs. Even though the policy was widely supported, challenges occurred during implementation resulting in a complete breakdown in the waste management system. With waste piling up in public spaces, issues of public health and safety emerged. The breakdown can be attributed not only to the lack of financial resources being transferred from the central government to local counties, but the mismanagement of local resources by local county officials and the privatization of waste collection. As the public came to recognize local corruption, citizens began to lose trust in local officials and refused to pay taxes. The decentralization policy was intended to promote participation and inclusive development, but instead it dismantled what was a functioning waste management system. The massive disruption in how waste was managed came at a time when waste, such as plastic bags, was proliferating as a result of rapid social change and development.

### **Plastic Bag Policies in the African Context**

Plastic bag pollution is one of the most pervasive, yet under researched environmental problems across the world (UNEP, 2009). In Mali, the bags are widely used for transporting consumer goods and also used for selling drinking water. In many

African countries, plastic bag pollution is causing severe environmental and health damage. Due to the lack of recycling and reliable waste removal services, plastic bags are spread all over public spaces in most big African cities and increasingly in rural areas as well. As a result, sewage and drainage systems are blocked causing floods during the rainy seasons. Furthermore, the bags provide an ideal breeding ground for mosquitos thus increasing the risk of malaria. The bags also affect livestock as they can be exposed to disease and die from ingesting the plastic bags.

There have been some efforts by many African countries to create solutions to reduce plastic bag pollution. Rwanda, South Africa, Kenya, Mauritania, Eritrea, Tanzania, Uganda, Zanzibar, and Somaliland have banned the use of thin plastic bags, one of the main types of bags creating pollution and waste problems. In May 2012 the Malian government adopted a law banning the production, importation, possession, sale, and use of non-biodegradable plastic bags. The law was to be fully implemented by April 2013. However, when the political conflicts worsened in January 2013, the law was no longer a priority for the government and did not go into effect.

African countries have used three main regulatory strategies to address plastic bag pollution: bans, marketing of alternative bags, and taxes. In 2003, South Africa banned the production of thin-film plastic shopping bags and applied a tax on thicker plastic bags. This strategy—focusing on thin-film plastic bag—emerged because these bags have zero economic or recycling value. Studies have shown that since the ban of thinner plastic bags paired with taxation of thicker bags was implemented in 2003, there is now less litter and increased production of canvas bags (Rayne 2008). Nhamo (2008) also argues that the ban contributed to significant reductions in environmental damage

stemming from plastic bags; however, adverse effects also occurred such as the loss of some jobs in the manufacturing sector.

Rwanda is one of the most successful countries in fighting plastic bag pollution. During my interview with the Malian Minister of Environment, he told me that the international airport in Kigali, the capital of Rwanda, welcomes visitors with a sign that says: “The use of non-biodegradable polythene bags is prohibited.”

The Minister also talked with me about his visit to Rwanda in order to meet with the Rwandan authorities in charge of the environment:

I visited Rwanda with my Head of Sanitation Division here present.

Shortly before our plane land in Kigali, the capital of Rwanda, we intentionally purchased duty free perfume in Ethiopian airline and when we landed the custom officer told us that we could not get in with the bags. We were impressed. We met with local Rwandan authorities and learnt that they relied on women and included them in the process of the ban of plastic bags. According to what we were told in Rwanda, the government encouraged people who made woven shopping baskets for living and provided them with funding to be able to meet the demands nationwide. Additionally the Minister of Environment of Rwanda carried out a robust sensitization campaign that centered women. He told us that he schedules personally regular visits in the market to talk to women and encourages them to use shopping baskets. We will inspire from their experience (Personal Interview, August 2012).

The Rwanda government launched a nation-wide radical ban on plastic bags in 2008 while South Africa started the implementation of a plastic bag ban three years



earlier in 2003, however Rwanda has been more successful. According to the Malian Minister of Environment, Kigali is the cleanest city in Africa he has ever visited. Even travelers to the country are warned that they will be fined for using banned plastic bags in the country. Rwanda did not only rely on the ban but adopted a women-centered approach that aided in the country's success. In addition, the country encouraged people to use *Umuganda*, the obligatory monthly communal work session, to collect all the plastic bags lying around or buried.

Good governance and the commitment of the Rwandan authorities also helped Rwanda to implement the ban of plastic bags. Although the manufacturers and other businesses that imported the bags complained about the banning of plastic bags, the government remained firm and did not change its policy. The government however offered them tax incentives to either purchase equipment to manufacture bio-degradable bags or to recycle plastic instead of manufacturing them anew. The government also encouraged community-based cooperatives—composed mainly of women and young people—to make bags from locally available environmentally friendly materials.

Plastic bag pollution is affecting many African countries including Mali. Leaders in some of these countries have shown commitment and creativity in confronting the issue head on, as demonstrated by Rwanda's approach. As Mali's Minister of Environment noted, this is an inspiring example for Mali if leaders have the political will to redress environmental inequities and are willing to engage a gender-sensitive approaches. In order to best analyze the increasing waste associated with a modernizing Mali, namely plastic bag pollution, I argue for bridging a gender analysis with the

concept of plastic bag consumption. In my analysis of gender, environmental justice, and development, women are central to both understanding and addressing these issues.

## CHAPTER IV

### FINDINGS: LOCAL PERSPECTIVES ON PLASTIC BAG POLLUTION

To understand and address the gendered environmental justice issues of plastic bag pollution, I conducted fieldwork in Mali for five weeks in the summer of 2012. I conducted 30 semi-structured interviews with women vendors in three market sites. I also conducted 5 semi-structured interviews with Mali officials as described in Chapter I. While analyzing the data, several themes emerged within and across the interviews with both women vendors and Mali official participants, including: globalization, modernization and identity, environmental justice, good governance, and women in development. I focus on these themes below, situating women's perceptions and experiences within an analytical discussion to best understand the interrelated nature of gender, development, and environmental justice.

#### Summary of Findings

Before giving a detailed analysis of the central themes that emerged from my interviews with women vendors, I will first provide a brief summary of my overall findings.. I will focus particularly on their responses to some of my interview questions to which all the women vendors at all three research sites gave me similar answers.

First, all the women vendors raised issues related to the use of plastic bags. They all unanimously admitted that plastic bags are convenient. To my question *what do you feel about plastic bags?* Massy, Ta, Ramou and Sina, all from Bamako, respectively told me:

Plastic bags made shopping and selling very convenient for women. (Massy, Bamako)

I think it makes life much more convenient for us because even if you do not bring a shopping basket to the market, you can shop and put your stuffs in a plastic bag for free. (Ta, Bamako)

Plastic bags are very convenient for me. Before we had a lot of concerns about where to put the local medicinal products we sell, now we have the plastic bags. (Ramou, Bamako)

The bags are much more convenient for shopping even though they favor the spread of mosquitos. (Sina, Bamako)

Kia in Bougouni 10 years as a vendor, 51 years old also said that plastic bags were “useful” in the sense that they allowed her to sell and keep her business. Kerou, Assia, Bi and Nina in Koulikoro also confirmed to me the convenience of using plastic bags for shopping.

When I asked women vendors the question, *Do your customers bring their own shopping bags to the market?* The majority of the women vendors answered in the negative. A few of them pointed out that even if some women occasionally bring their own shopping baskets, the grocery is still wrapped in a plastic bag and then put in the bag. But when I asked the women vendors the question, *Do you shop with your own bags?* They all, without exception, confirmed to me that they never use plastic bags for their own grocery shopping. One of the reasons why women vendors use their own reusable shopping baskets was explained by Assia, a 60 year old woman who has worked 30 years as a vendor in Koulikoro:

I always go shopping with my own bag because plastic bags are very light and tear easily.

Bi, a 30 year old vendor with 10 years of experience in Koulikoro reported something similar:

I bring my own bags every day to the market because it will save my groceries from falling on the ground because plastic bags are very light.

Only two out of the 30 women vendors I interviewed gave me different explanations for using their own shopping baskets. Nassy, a 35 year old vendor also with 10 years of selling experience in Koulikoro said:

I go to the market with my own basket, however whatever I buy is served in a plastic bag. So the basket I bring is not useful because at the end of my shopping my basket will be full of items wrapped in plastic bags.

Also in Koulikoro, 35 year old Nina with 8 years' experience as a vendor also gave a different answer:

I am from an extended family. The head of my household does not allow us to use plastic bags so all the women living in our household bring their own shopping basket to the market. My husband said he does not like it because it is not respectable for a woman to put her food ingredients in a plastic bag. There is no dignity in using plastic bags for shopping. No one in my family ever brings home plastic bags.

The women vendors who confirmed that they carry their own shopping baskets to the market did not make it clear whether, like Nassy in Koulikoro, they also wrapped all the groceries they purchased in a plastic bag which is likely to be the case.

Another concern all the women vendors raised was the fact that they purchase the plastic bags but have to offer them for free to their customers. Touma, a 35 year old vendor with 6 years of experience in Bamako, said to me:

Women shoppers come empty handed to the market and rely on the vendor to put their groceries in a plastic bag. If you refuse, you will be in trouble because they will stop being your customer.

I then asked many of the women, “*Can you ask your customers to bring their own shopping baskets?*” “Yes we can, and have been asking but they will not listen” or “they are lazy” was the reply from the majority of women vendors.

Regarding globalization, more than half of the women I interviewed perceived the widespread use and consumption of plastic bag as a thing coming from outside the country. They said that they did not grow up seeing their mothers using plastic bags to shop but rather woven baskets or other containers. Considering that the maximum age of my participant is 70 years, I may assume that plastic bags consumption in Mali started about roughly three decades. The remaining half of the women I interviewed had different opinions about the origin of plastic bags. Some of these still wonder how it started and others said that they did not know where the bags came from. The Malian officials I interviewed were all silent about the origin of the use of plastic bags in the country.

Out of the total 30 women I interviewed, 14 were under or equal to 40 years old and 16 were between 40 and 70. Women equal to 40 or under were the ones that mostly associated the use of plastic bags with being modern and civilized. Those above 40 were mainly concerned with the loss of Malian cultural identity such as the use of woven

shopping baskets or other re-usable containers for grocery shopping. In the absence of data about the actual time when women started using plastic bags in Mali, and based on the judgment and the age of the women vendors I have interviewed, I may assume that the 14 women under 40 who were particularly enthusiastic and mainly proud to use plastic bags did not obviously grow up seeing people using re-usable shopping baskets while women above 40 might be more aware of the period before plastic bags started being used in Mali. This might explain why the two groups of women had opposite perspectives regarding plastic bags in relation to modernity or loss of local cultural identity. Most Mali officials I interviewed acknowledged that there was less waste and less environmental damage in the past when women shopped with baskets or other containers they brought from home to the market.

Almost all the women vendors I interviewed in all the three research sites unanimously associated their conditions as one of the least privileged group in the country to the fact that they disproportionally bear the burden of environmental degradation. Additionally all the women I interviewed raised concerns about good governance. They complained about the failure of Malian authorities to provide them with adequate waste collection services and effectively use state resources to that effect. While acknowledging governance as an issue that hinders development projects and initiatives in Mali, Malian officials I interviewed also raised other issues. The deputy central Mayor of Bamako for example mainly focused on the lack of financial resources to efficiently address waste management and provide services to the community. He said to me:

We currently have only 2 trucks for waste collection for the city of Bamako.

These two trucks are the only ones that are currently functioning out of the twenty trucks donated to Mali by the government of Japan twenty years ago.

Since the shift of political power from the central government to local leaders following the advent of the decentralization policy in Mali, good governance has been a persistent issue in Mali. Mayors particularly who were vested with the political power to manage all the resources within the territory they cover have seen this a new way to enrich themselves. Except the Deputy Central Mayor of Bamako himself and his colleagues who took part in the interview, all my other interviewees including women vendors and the other Mali officials persistently raised the issue of good governance. They pointed at all the mayors for their lack of discernment between state and personal resources and their failure to efficiently address various issues their respective communities are facing.

Before expanding upon these themes of globalization, modernization and the loss of cultural identity, environmental justice and good governance, and Mali officials' perspectives on women, I present tables with basic information about all my research participants. Tables 3-5 provide information about the women vendor participants by research site using pseudonyms. These tables show women's age, formal education, their household size, and the number of years selling at the market. Table 6 uses the actual names of Malian official participants, since they occupy public office. This table shows how long they have held their position, their age, and formal education, where available.



**Table 3. Women Participants in Bougouni**

No.	Research Site	Pseudonym	Years as Vendor	Household Size	Age			Formal Education		
					18-40	40-60	Above 60	None	Grade 1-6	Grade 7-12
1	Bougouni	Tafan	30	10+		50				9
2	Bougouni	Kia	10	30		51		X		
3	Bougouni	Mata	30	10+		50		X		
4	Bougouni	Bia	30	10+			60	X		
5	Bougouni	Toubin	10	10+		43				7
6	Bougouni	Mairam	30	10+			70	X		
7	Bougouni	Mouna	10	10+	26			X		
8	Bougouni	Nako	12	10+			60	X		
9	Bougouni	Maissa	8	10+	32			X		
10	Bougouni	Ninte	6	10+	33					12

**Table 4. Women Participants in Koulikoro**

No.		Research Site	Pseudonym	Years as Vendor	Household Size	Age			Formal Education		
						18-40	40-60	Above 60	None	Grade 1-6	Grade 7-12
1		Koulikoro	Nassy	10	10+	35			X		
2		Koulikoro	Rama	5	8	19				5	
3		Koulikoro	Nina	8	10+	35			X		
4		Koulikoro	Banin	5	10+	29			X		
5		Koulikoro	Bidia	10	6	30				5 Medersa	
6		Koulikoro	Diaka	15	30+	does not know her age			X		
7		Koulikoro	Tou	21	About 10		55		X		
8		Koulikoro	Kerou	30	About 25		55			1	
9		Koulikoro	Assia	30	8		60		X		
10		Koulikoro	Bi	10	10+	30				5 Medersa	

**Table 5. Women Participants in Bamako**

No.	Research Site	Pseudonym	Years as Vendor	Household Size	Age			Formal Education		
					18-40	40-60	Above 60	None	Grade 1-6	Grade 7-12
1	Bamako	Massy	30+	Many		60		X		
2	Bamako	Kouly	36	27		59		X		
3	Bamako	Ta	5	7	33			X		
4	Bamako	Ramou	20+	Many		50		X		
5	Bamako	Sina	10+	Many			60+	X		
6	Bamako	Mah	15	19	38				5	
7	Bamako	Touma	6	11	35				6	
8	Bamako	Araba	15	15		50		X		
9	Bamako	Tima	38	Big			70	X		
10	Bamako	Rouky	13	Many	40			X		

**Table 6. Mali Officials Participants**

<b>No.</b>	<b>Research Site</b>	<b>Name</b>	<b>Number of Years /Months at the Position</b>	<b>Date of my Interview</b>	<b>Age</b>	<b>Formal Education</b>
1	Bamako	Dr. Cheick Modibo Diarra Mali Prime Minister	4 months as of interview 04/17/2012	09/10/2012	61	NASA Astrophysicist
2	Bamako	Mr. David Sagara Minister of Environment	2 weeks as of interview	09/06/2012	46	Agricultural Engineer
3	Bamako	Honorable Mohamed Adideye Maiga The Chairman of the Commission for Rural Development and Environment at the National Assembly and the Representative elected in the County of Kati	Member of the Parliament since previous Parliamentary election in 2007	09/05/2012	NA	NA
4	Bamako	Henry Makan Keita, Deputy Mayor of Bamako	NA	09/04/2012	NA	NA
5	Bamako	Mr. Felix Dakouo National Director for Sanitation and Control of Nuisance	NA	08/31/2012	NA	NA

## **Globalization**

The term globalization is widely used with multiple definitions. For this study, I use Spring's (2008:334) definition which refers to globalization as, "an increase in social and political processes that occur 'above' the level of the nation-states and their governments, mainly through international organizations." Globalization is considered to be complex and contradictory, including being lauded for its positive benefits and critiqued for contributing to inequalities and injustice.

Contemporary globalization is characterized by rapid economic and social change, including economic growth and development. Globalization also increases the flow of communications and the spread of technology, providing opportunities for (some) consumers to get a wider variety of products from other countries. The spread of cell phones serves as a good example of spreading technology; a technology that makes people's lives much easier for many in Mali, especially those living in rural areas.

As stated in Chapter I, globalization in the form of free trade has resulted in markets opening and increased consumption, including the consumption of plastic bags. In particular, women, as the primary shoppers for their households, have adopted new shopping habits, largely abandoning the use of traditional woven shopping baskets. Imported plastic bags have led to numerous environmental consequences, exacerbated by a dysfunctional waste management system, and have jeopardized local basket businesses. At the same time, rapid population growth and urbanization have strained the existing waste management system.

In spite of its benefits, which are often more visible, globalization has hidden consequences that threaten local economies. Indeed, the advantages of globalization in terms of economic growth can seem more obvious than its negative consequences on local economies if one looks at mainstream accounts. I argue that globalization in its present form is detrimental to developing countries such as Mali. In the context of this research, the spread of and the wide use of plastic bags are a consequence of globalization, and women are positioned both to contribute to and be affected by the problem.

The changes in shopping habits in Mali have led to a massive consumption of plastic bags that has affected small local businesses. Women in Mali initially carried beautiful woven baskets for shopping, made by a craftsman earning a living through this work. Now that plastic bags are accessible and offered for free at the market, due to globalization, it is more convenient for women to pick up plastic bags with each purchase, and women, therefore, buy far fewer baskets made by local craftsmen. As a result, this craft that is a part of the Malian culture has collapsed, and craftsmen have lost their source of income. These craftsmen have lost the ability to support their families. In the case of plastic bags versus traditional baskets, globalization has not created local economic growth, rather it has deprived local people a traditional source of income.

Plastic bag pollution and its consequences on women is not simply an issue of women and waste, it is the result of globalization, which led to the diversification of the source of supplies for basic goods and an increase in consumption in less developed countries. As a result of countries exchanging goods, the consumption patterns of Malian women have changed. These changes have led to an increase in waste and environmental

degradation. Women are the most affected by this environmental degradation because of the division of labor and gender roles socially assigned to them that makes them directly responsible for shopping, house cleaning, and waste management within the home.

In addition to threatening local business, globalization also erodes local cultures. Appadurai and Pred (Schech and Haggis 2002), known for their critique of the globalization of culture, argue that in the process of globalization local cultures are invaded by dominant cultures. In the context of this study most women I interviewed stopped using the shopping basket and started shopping with plastic bags because they are convenient and offered for free. Additionally, women seem to feel powerless to reject plastic bags even though they have a clear perception and understanding of the damages it causes.

This study uses the case of plastic bag consumption by women vendors in Mali to explain how the local shopping culture has been altered as the result of Mali opening up to the global world. A 33-year-old woman I will call Ninte, to respect confidentiality, who had been a vendor in Bougouni market, for 6 years, reflected on traditional Malian baskets and their connection to culture, environment, and livelihood:

We should return to the shopping basket. They are beautiful, last longer and do not destroy our environment like plastic bags. In addition, those craftsmen who make them gain money to support their families.

Plastic bag use was often discussed with ambivalence reflecting a tension between convenience and commitment to cultural and environmental ideals, but women vendors also expressed anger about the perceived origins and consequences of ubiquitous plastic bags in Mali. When I asked Toubin, a 43-year-old woman with 10 years of experience as

a vendor at the market in Bougouni, how she felt about the use of plastic bags, she said with anger that:

Plastic bags are brought to our country by the *Tubabu* [white man in Bamanan]. They are not even manufactured in our country. When I was younger, women used to bring shopping baskets to the market. Today, women no longer bring shopping baskets in the market. There are lots of problems caused by plastic bags. If this can be stopped, I will be very happy. In addition, the bags do not decompose. Since we do not have a place where to take our trash, which is full of plastic bags, we burn it and the smoke makes us to cough. This is a big concern for us. Plastic bags are something brought to our country by white people. It is not something we knew before.

Furthermore, Tafan in Bougouni, a 50-year-old woman who has been selling at the market since she was 20, explained:

If I had the power, I will replace plastic bags with shopping baskets or paper bags. I am 50-years-old, I did not grow using plastic bags for shopping. When I got married, I used to go to the market with my shopping basket. I do not know how our country has been invaded by plastic bags like this so quickly. Western countries manufacturing the bags send them to us and force us to change our habits because they want to sell their products. Our authorities should ban the import of plastic bags in our country.

These examples illustrate women's perceptions that globalization is likely to negatively influence local culture. Some of the women I interviewed see globalization as the adoption of a foreign culture and a loss of local identity. These quotes show that these



women regret abandoning the traditional shopping baskets for plastic bags. They clearly recognize issues such as the loss of jobs for craftsmen, the pollution and health issues, as well as the influence of global culture on Malian culture.

In addition to the negative effects on culture, globalization also creates inequalities. The women selling at the market do not seem to have the power to stop the invasion of plastic bags into the market. Even though women critique plastic bag use, most of them admitted that plastic bags made their lives easier when plastic bags were introduced.

Foucault (Schech and Haggis, 2002) argues that knowledge always involves power and leads to global inequality in the world. Since the West has the power of innovation and the capital to produce, it easily imposes its ways of life on non-Western cultures. Whomever has the power makes the rules. The lack of knowledge and power within less developed countries like Mali can affect disadvantaged groups like women. For example, when people initially started using plastic bags in Mali, there was no plastic bag manufacturing industries in the country. The bags were imported from outside probably from richer nations, to Mali for consumption by relatively poorer people. Instead of creating economic growth, the widespread use of plastic bags in Mali has created an inequality and a burden on an already poor country and have been primarily imported to the country.

All the participants interviewed unanimously agreed that plastic bags had made their lives easier. While they agreed that using them had been convenient for both selling at the market and for grocery shopping, they also understood the negative effects of the bags in terms of environmental degradation. For example, Massy in Bamako was a 60-

year-old woman who has been selling a wide variety of food ingredients for more than 30 years. When I asked her how she felt about plastic bags, she replied: “It made shopping and selling very convenient for women.” Women no longer need to go to the house to get a shopping basket and can at any time and from anywhere go to the market for grocery shopping because she is assured to get a bag for free to carry groceries for cooking. This makes shopping with plastic bags convenient, even if not environmentally friendly.

Mairam in Bougouni, an energetic 70-year-old woman who had also been selling for over 30 years responded:

In the past, before we started using plastic bags, women used to shop with baskets or other containers they brought from home, and all food ingredients sold at the market were wrapped in tree leaves or paper. But now, everybody has turned to plastic bags for shopping because it is convenient and offered for free.

In the same vein, Diaka at the Koulikoro market who had been selling donuts, fresh fish, local soap, and clothes for 15 years gave me a similar answer when I asked her how she felt about plastic bags. Even though the respondents of this study recognized that plastic bags have made buying and selling much easier for them, they still perceived and understood the negative impacts, such as in the increase of waste with huge consequences on the health and environment. Here is what Diaka said:

What I think about plastic bags is that at the beginning we liked it. I was happy that the plastic bag was introduced it made things easier for us but now it has become a problem. It is something we started but now we do not know how to stop it.

Based on my interviews with women vendors, they understood that plastic bag pollution is closely linked to globalization and is a part of the broader consequences of globalization's effects on local contexts. Women in my study showed ambivalence about plastic bag use, noting that convenience and that being free are part of the problem. They also expressed strong feelings about plastic bags as symbolic and material manifestations of global inequality in their lives. Plastic bag pollution demonstrates the environmental consequences of strategies of development that emphasize economic growth without concern or value for local culture. Resisting or refusing to use plastic bags appears difficult due to the power imbalance giving the exporters considerable influence to promote trade and sell products that can erode culture and is likely to damage the environment.

### **Modernization and Identity**

An unexpected theme that emerged in the interviews with women vendors was the notion of modernity associated with the use of plastic bags. Women I interviewed had different perspectives about modernity. Some of them said that they use plastic bags because they wanted to "be modern." They believed that using plastic bags made them look modern and as if they were following the trend around the world. Bidia in Koulikoro was 29 years old and originally from a neighboring village had been selling at the market for five years. When I asked her how she felt about plastic bags she said: "I like using plastic bags, because I feel that I am civilized when I do so. Carrying a woven shopping basket is old fashioned to me" For this woman, plastic bags symbolized her modern status and actively demonstrated her identity through her consumption choices.

To the contrary, other women complained that they were losing their identity by rejecting the handmade shopping baskets that are a local custom and tradition. For example, Kouly, in Bamako market, a 59-year-old woman with 36 years of experience as a vendor, described her feelings:

I am sad that nowadays women see grocery shopping as only a chore. You know, going to the market before was a big event women were proud to take part in. Women used to dress up for the occasion and proudly carried their beautiful handmade shopping baskets. All these are gone because of plastic bags. We rejected our own culture to embrace the one of an outsider and have become like *Konote, Warate*. (bats). This means more literally, “not bird, not animals, nothing.”

*Konote Warate* in Bamanan means that we have lost our identities. Bats are not counted as either birds or as mammals. This quote illustrates the perspective that some people in Mali believe that by using plastic bags, they have rejected their own culture and have embraced the culture of a stranger. As a result, Malian identity has shifted toward a foreign culture, creating a new identity in between modernity and tradition.

The Prime Minister, Cheick Modibo Diarra, was also clear about the importance of including women in addressing plastic bag pollution. He also stressed the importance of maintaining culture.

Women simply need to go back to the woven shopping baskets and to paper packaging for groceries sold on the market. I remember when I was a little boy, my mom had a woven shopping basket. I used to see her taking this basket to the market for grocery shopping. The ingredients she brought home were wrapped in

paper. This was simpler and cleaner, we need simply to go back to this system. . . . Sometimes, this notion of modernity will end up destroying us. After exploring all these things we believe are modern, we will come back to the starting point only to realize that our local knowledge and understanding of the environment are more valuable than the modern ideas and behavior we blindly follow.

It is important to acknowledge that there are different perspectives among women regarding the use of plastic bags. I use the concept of “internal others” to explain that people from the same culture see things differently. Societies are not only different from one another, but there are also internal particularities within the same culture (Schech and Haggis, 2002). For example, Bidia in Koulikoro who was proud to look modern was 29 years old and Kouly who had the opposite view was 59 years old. While I cannot generalize from my data, it is interesting to consider whether age might be a factor in their choices and perspectives about plastic bags.

While trying to explain the theories of universal civilization, modernization, and westernization, Samuel Huntington (1993: 275-331) proposed three responses of the West and the Rest. The first response of the West to the Rest, he suggests is to reject both modernization and Westernization. The second one is to embrace both, and the third is to accept modernization and reject westernization. I also employ Huntington’s concepts of rejectionism and kemalism to frame the dichotomy revealed in the ways women perceive the use of plastic bags. He argues that both rejectionism and kemalism are reactions of non-Western societies to modernization and westernization. He describes the first concept as the total rejection of both western and modern culture while the second is the adoption of both. Some women vendors rejected the handmade shopping baskets which

are a local tradition and adopted the use of plastic shopping bags as a sign of modernity. Those women wanted to be modern and adopting plastic bags contributed to shaping their identity through selling and consumer practices.

If the use of plastic shopping bags makes the women feel modern, what then is modernity? The change in the sellers' and consumers' habits is not without consequences. In the case of Mali, local people who earn their livings through the sale of handmade baskets lost a substantial part of their income because women largely no longer buy and use the baskets. This fact demonstrates that culture can hardly resist globalization. However, it is very important for the West to understand that its values are not universal and for non-Western societies to keep in mind that modernization does not always mean westernization. Culture is not an impediment to development. Similarly, Robert Weller (1998) argues that the way the market is organized makes poor people poorer and degrades their values. The use of the handmade baskets was simple and did not cause any environmental degradation. Unfortunately, the renewable baskets were devalued and replaced by plastic shopping bags that have a lot of consequences on the country's economy and the health of people. The use of plastic shopping bags does not only destroy the local basket business it also does not add value to the economy of the country. This demonstrates the intersection of culture, globalization, modernization, and westernization. The adoption of plastic shopping bags shows how globalization and free trade have affected the consumer habits of women in Mali. This blind globalization has eroded the cultural identities of consumers in general and the values of traditions that have existed for many years prior to the invasion of Mali by the plastic bag industry. Serving the interests of the West, the benefits generated by the sale of the bags goes to

the manufacturers who are western industries. Unfortunately, by the time women in Mali realized that the use of handmade baskets was a better, less costly option in the long run, years of damage had been done to the national economy, the traditions and values, and the environment of the country.

### **Environmental Justice**

When advocating for environmental justice, Vandana Shiva (2005:3) states that the “Privatization of public goods and services [...] is a double theft which robs people of both economic and cultural security” Environmental injustice, as argued by Shiva (2005), is the hidden cost of globalization. Disadvantaged groups in society, such as poor people, racial minorities, and people of lower or working class, disproportionately bear the burdens of environmental degradation, pollution, and socio-environmental consequences associated with globally organized economic growth (Walker, 2012). Maathai (2009) argues that this includes inequality in exposure to environmental problems, inequality in access to decision-making, and inequality in access to environmental resources. Most of the time, women are affected more directly than men by these inequalities due to the fact that they have no political or economic power because of their social positions and the culturally assigned gender roles. Gender is integral to understanding the dynamics of environmental justice.

With globalization, environmental justice is likely to become an acute issue because transnational companies can move freely and relocate to places where people have less political and economic power to resist. As a result, they bear the multi-faceted costs of the social and environmental consequences, such as pollution. The change in the shopping habits of women, namely increased consumption patterns, is likely to lead to an

increase in the use of plastic bags. Due to the lack of recycling and adequate waste management systems, both in big cities as well as rural areas, the bags are spread everywhere in the environment. This situation creates environmental degradation, because the bags are left in public places, harm livestock, harbor disease, and do not degrade. In an era where there has been a decentralization of public waste management services, only the rich can afford to pay for private waste management and distance themselves from these issues. This creates an injustice particularly among poor women. In Mali, the women selling in the markets suffer more from plastic bag pollution, as my interviewees revealed, in part because of their inability—and their communities' inability—to pay for waste removal services.

In the context of this study, most women I interviewed said that they bear the burden of environmental degradation because they are poor and cannot afford to pay someone to clean their neighborhood and remove the waste. In contrast, rich people, including policy makers, live in clean neighborhoods and can afford to pay servants to take care of their waste. Rouky in Bamako, a 40-year-old woman who had been selling for 13 years, told me:

We do not have any kind of public waste services; our houses are full of mosquitos that lay eggs in plastic bags. Additionally all our drains are full of bags. Last week in Kayes there was a heavy rain and I saw on the TV people complaining about the drainages being full of bags causing flood with many victims. Who do you think the victims are? Poor people, of course.

Policy makers also seemed somewhat aware of and raised issues related to environmental justice. Part of the story, according to the Chairman of the Commission for



Rural Development and Environment at the National Assembly and the Representative elected in the County of Kati, is the way that rural people's lands have been recently sold to the wealthy in Bamako, constituting a land grab of sorts facilitated by the government's complicity. He explained:

In 10 or 15 years, all the lands customarily owned by villagers along the Bamako-Bougouni road have been sold. Currently, villagers no longer have lands to cultivate for farming. They are hired by the new rich owners of the lands living in Bamako to work on the land they owned before. All the lands have been sold with the complicity of the government.

For someone who knows the Malian culture, this is not only an injustice but a humiliation for the villagers. Oftentimes those lands have belonged to their great grandparents and have been passed on from generation to generation to be used for agriculture, a critical part of many households' livelihoods. Government agents in charge of land management take the land from the villagers on the grounds that they do not have property titles. In Mali the law says, on the one hand, that all lands belong to the government but, on the other hand, the law also recognizes customary ownership of land. After using or cultivating a piece of land for at least 10 years, the user is allowed by law to own that piece of land. The only reason why the government is allowed by law to appropriate land is for public utility reasons, as when the government needs it to build a school, health center, or road.

The Chairman's comments speak to the broader issues of land rights, public goods, and governance within Mali and how the interests of the poor, particularly poor women, are not fully protected, let alone prioritized, even when the law is on their side.

With environmental pollution and waste management in relation to plastic bags, this creates environmental injustice in terms of who has access to cleaner living environments, who is subject to greater risks associated with environmental degradation, and who has power and resources to have their interests represented in policy-making circles. Governance was a theme in my interviews with women vendors as they had their own views about the links between plastic bags, environmental justice, and governance in Mali.

### **Good Governance**

Good governance as defined by the World Bank involves efficient and effective management of the public sector, that requires accountability, exchange and free flow of information (transparency), and a legal framework for development (justice, respect for human rights and liberties) (UN, 2006).

Many women vendors in the markets whom I interviewed raised the issue of good governance. They complained that the local authorities, specifically the mayors, who were in charge of sanitation and garbage collection in each municipality failed to fulfill their responsibility toward the people. They did not provide them with adequate support and infrastructures, such as a reliable waste management services, that would improve their living conditions. Women felt abandoned by the Malian authorities. Mata in Bougouni, a 50-year-old woman, who sold food ingredients said:

You can ask other women vendors they will testify what I am telling you. A tax collector from the Mayor office charges me as well as other women vendors at the market 50CFAF (\$0.10) every day for the spot I occupy. The money he collects is supposed to be used to improve our living conditions and provide us with

adequate basic services. Instead, they spend it. Our local authorities are here only to serve themselves, they do not do anything to protect us. They do not care about women vendors because we are poor. The only time they come to talk to us is during elections when they need our voices to get elected. Once they are elected, they no longer care about us.

Ramou in Bamako, a woman over 50 years old and a vendor for about 20 years, raised the issue of how democratization has led to anarchy and the lack of rule in the country. She critiqued policy makers for not fulfilling their roles:

Democracy has spoilt our country. Now, there is no rule, people do whatever they like. Before, all streets in the city were clean. The *Voirie* and *Service d'hygiene* (State Services in charge of sanitation) did their work. If you throw trash in the street and they catch you, in addition to cleaning the mess, you will also pay a fine or you go to prison. Our authorities are no longer doing their work. If our authorities do not stand where they need to be, we will be invaded by trash. As the result we will all fall sick and die of diseases caused by the dirty environment we live in. This demonstrates the authorities' failure to provide community members with adequate waste collection services which could possibly result in the spread of diseases as people live in between hazardous wastes.

Women vendors in the market were not the only ones talking about governance. In my interviews with policymakers, they also shared some critiques of government officials lacking the conditions of good governance as described above. The Chairman of the Commission for Rural Development and Environment at the National Assembly and the Representative elected in the County of Kati said,

Excuse me for the term but there is impunity in this country. Those in charge of regulating and allocating public spaces such as the Mayor, the Governor and the *Domaine* (Government Agency for the Management of Land) sell those spaces to rich businessmen. Later on there are conflicts because the same piece of land has been sold to two or three different people. The matter is reported to the Court with endless trials. The National Assembly has summoned the government numerous times in relation to the illicit sale of lands reserved for public use. The spirit of good citizenship, rigor and respect of the public thing are no longer valued by Malians.

Besides the Representative of the National Assembly, the former director of the *Voirie* currently the Head of the management department in the Office of the Central Mayor of Bamako also admitted that good governance was a major challenge in Mali. He said. “Indiscipline and the lack of the authority of the state are the major issues in Mali.”

While it should be noted that the World Bank’s definition is an ideal, and one that perhaps would not be found uniformly in any country, the way in which my interviewees spoke of the problems related to governance makes clear their perceptions. That these perceptions were shared among women vendors and policymakers gives more weight to the sense that these are widespread perceptions held by government officials and the government more generally. Part of the solution to plastic bag pollution will be a shift in the orientation of government officials toward the environmental health of ordinary people, such as securing public goods as systematic waste management. As was true in Rwanda, I argue that women should be integral in this process.

## **Mali Officials' Perspectives on Women and Development**

In my interviews with several officials representing different governmental departments addressing environmental issues, I focused our conversations on current environmental policies and implementation challenges as well as on women's roles in the policy formation process. All the officials agreed that women are important and should be included in policy formation. However, they also acknowledged that women are currently not included.

The Minister of Environment was particularly enthusiastic about women's involvement in development policies. He stated,

I am glad you asked this question. It is not only in plastic bags issues that women need to be involved but everything. I personally strongly believe that besides plastic bag pollution, any project that does not include women will never produce the expected result.

In our interview, we discussed the importance of including women in policy-making related to plastic bags as women are the primary users and consumers. While he emphasized the importance of including women, he admitted he was uncertain how to implement this. He also raised the issue of gender roles and how this affects women's participation,

The issue can be social, for example the woman is blamed by her husband and other members of the household when the food is not ready on time or is not delicious. Therefore she does what she can to make things smooth for herself.

Considering my knowledge of the Malian culture, this quote implies that women's struggles to have their voices in household decision making are due to widely held

societal views of female subordination. If women cannot be included in decision making within their own homes, how can women participate in the policymaking decision process at the state level?

I pushed the Minister of Environment to speak on his views regarding the ways in which women should be included:

Now the question is what the steps are and how do we get to involve them, from what sector do we start? You just mentioned that women are the biggest users and consumers of plastic bags therefore they have a big role to play in addressing plastic bags pollution. Now how can the government assist them in playing this role should be the next question or how can the head of the household, the husband assist his wife in playing this role? For me, women networks should be priority. I believe that we need to take each field involving women separately and provide them with adequate means to address the effects of plastic bags.

While the Minister acknowledges that women are important, he clearly shows that there are no resources or plans to include them in policy formulation. He went on to relate a story from the previous year when a local nonprofit had requested funding for a sanitation project and the project did not include any women. He said he told the representatives of the nonprofit, “Wait a minute, how can you conduct a sanitation project without including women groups? If you do not know any women group, create one!”

As this anecdote suggests, even though many people in Mali—including high level policymakers such as the Minister of the Environment—understand that women are important, in reality, they do not include women in policymaking. Despite expressing

support for women's inclusion, they describe the hurdles of gender and culture in regards to social change, drawing examples from the gendered division of labor in the home to raise doubt as to how women can in reality be included in policymaking. But as Mali's own history of having a female Prime Minister reveals, gender roles are not as "fixed" as people often describe. And, as the Rwanda case reveals, with the political will to include women, they can be key agents in producing more just environmental policies that support not only women and the poor but improve conditions generally.

## CHAPTER V

### CONCLUSION: CENTERING WOMEN AS KEY DEVELOPMENT AGENTS

This project looked at women's experiences and perspectives regarding the use of plastic bags. My research also focused on the change in the consumption and shopping habits of women, and why women are important in the search for a solution to the proliferation of plastic bags, and why their voices should be counted in policymaking.

The research revealed a number of key findings that are presented in the following four sections: (1) the perception and understanding of plastic bag pollution by women vendors, (2) the effects of plastic bag pollution on urban and rural women, (3) the current level of the involvement of women by policymakers in addressing plastic bag pollution, and (4) the ways that women need to be involved.

#### **The Perception and Understanding of Plastic Bag Pollution by Women Vendors**

Women vendors in Bamako, the capital, and those in Bougouni and Koulikoro clearly perceive and understand plastic bag pollution. Women understood that the bags initially came from outside of Mali, which resulted in women no longer using the traditional baskets for shopping. Women also made the connection that this affected the local craftsmen. They sensed an injustice that the bags were forced on them, even though they admitted that the bags were convenient for shopping and they participated in their proliferation. This illustrates their understanding of how globalization can be beneficial in the sense that it leads to greater convenience, but also creates inequalities and environmental degradation as well.

Furthermore, the women interviewed also criticized the government for its failure to provide basic waste removal services. This illustrates their understanding of the role



and duty of the government toward its citizens. The fact that the women I interviewed clearly understood the link between plastic bag pollution stemming from globalization and good governance challenges debunks the notion that uneducated women are not aware of such issues. Their awareness is an indication that not only should their perspectives be taken into account, but that they have the knowledge to address plastic bag pollution.

### **The Effects of Plastic Bag Pollution on Urban and Rural Women**

Women vendors living in Bamako, as opposed to those in Bougouni and Koulikoro, raised different concerns regarding plastic bag consumption and pollution. Almost all the women vendors living in Bamako were mostly concerned either with the spread of mosquitos due to the increase of plastic bag waste or the risk of flood due to the obstruction of drainage by plastic waste. Mah, a 38 year old woman vendor in Bamako with 15 years' experience selling at the market, complained:

.....My big worry about it, is the way it makes the town dirty and spread mosquitos. Few days ago, my youngest son could not go to school for one week because he had malaria.

Kouly, a 59 year old woman with 36 years of experience at the Bamako market, also said:

If you go to the Community Health Center you will see that most children and adults admitted there have *Sumaya* (Malaria in Bamanan). You cannot sleep in Bamako without a mosquito net or you have to buy every night a mosquito spray which I cannot afford.

In contrast, women vendors in Bougouni and Koulikoro, two rural areas, were mostly concerned with the consequences of the widespread use of plastic bags on

livestock and agriculture. Kia, a 50 year old woman with 10 years vending experience, said to me:

...I for example have a small piece of land I cultivate during the raining season. In the last 10 years, planting has become twice harder. I spend more time to prepare the soil as it is full of plastic bags, I dig deeper and deeper every year. The quantity of crop I used to have in peanut and corn has considerably reduced over time. I am wondering how it all started.

Mata, 60 years old with 30 years vending experience, also said:

I have my own backyard garden. I grow vegetable specifically okro. But now some of my okro plant die because the root lies on plastic bags and cannot grow.

Ninte, a 33 year old with 6 years vending experience in Bougouni, said:

This is a big concern for me as I have a couple of sheep that I raise. I have seen my friends cheeps died because they ingested plastic bags. I am obliged to tie my 2 sheeps with a rope and buy food for them, I cannot continue to do that. I need to let them go outside and wander for food but I am scared that they will eat plastic bags and die afterward.

Bi, a 30 year old with 9 years experience as a vendor in Koulikoro, told me

The next big concern regarding plastic bag is our animals. I personally raise sheeps at my house. One day, one of them got sick, and we call the butcher to slaughter it and found 2kn of plastic bags in its stomach.

In addition to being vendors at the market, women in rural areas also practiced agriculture and raised livestock. Most of them have their own piece of land that they work. They also own livestock, such as sheep, goats or cows that they take care of in

order to sell them when they need money for important things such as marriage of a daughter or to start or develop their businesses.

In contrast, the women vendors in the urban areas mostly raised two main issues. First, they were concerned with the spread of malaria caused by mosquitos due to water collecting in littered plastic bags. Secondly, they were also concerned by the risk of flood during the rainy seasons due plastic bags blocking the drains. Even though women vendors in urban and rural areas raised different concerns about plastic bag pollution, they all unanimously agreed that the bags have negative impacts on the environment.

### **Mali Policy Makers' Perspectives**

In this study I interviewed five key policymakers in Mali. The Prime Minister, the Minister of the Environment, the Chairman of the Commission for Rural Development and Environment at the National Assembly and the Representative elected in the County of Kati, the Central Mayor of Bamako represented by the Deputy Mayor, and the National Director for Sanitation of Mali. Each of them acknowledged that women were key agents for development projects. However, in their attempts to address the environmental degradation caused by plastic bags, all of them identified and primarily focused on pharmacy owners as the biggest users of plastic bags in Mali and none of them attempted to involve women in decision-making processes. During most consultations and negotiations related to the ban of plastic bags, pharmacy owners were the primary stakeholders whom the government included. Like in the WID and GAD approaches, Mali policymakers who took part in this research stated that women were important for the success of development projects and programs; however, none of them took women into account in the formation of the current policy addressing plastic bag

pollution issues in Mali. Despite the large role of women vendors in markets and consumption, policymakers privileged pharmacy owners rather than informal economy workers such as women vendors. A broader understanding of the interconnections regarding gender, environmental justice, and development, and the commitment to centralizing the experiences of women will be integral in efforts to address these issues.

### **Participation of Women in Policymaking**

Furthermore, my research also showed that women are key agents of change and should be included in policymaking. As a result of how society assigns roles to men and women, women are well positioned to understand and to provide valuable knowledge that is key to effectively implementing policies. The exclusion of women makes it hard for initiatives to reduce plastic bags pollution to gain the support of the majority of users of plastic bags.

Women are more affected by pollution because society has positioned them to play roles that require them to develop close relationships with nature. As argued by most feminist critiques (Momsen, 2010), gender needs to be introduced in development policies so that there will be a fair and equal distribution of economic benefits for all people. In Mali, there is a degree of political will to address issues around gender, specifically with regard to plastic bag issues. The government of Mali has signed many international agreements advocating for women's rights such as the Convention on the Elimination of all forms of Discrimination against Women (CEDAW). However, despite the signing and ratification of CEDAW in 1985, women in Mali are still marginalized and, as evidenced by policymakers in my study, women are largely not included in

development and policymaking. In the next section, I make several suggestions for the inclusion of women in order to reduce plastic bag pollution in Mali.

### **Recommendations**

This thesis presented challenges and provides some possible solutions to issues surrounding the intersection between gender, plastic bag pollution, and environmental degradation in Mali. Plastic bag pollution is a global issue that both developed and developing countries are struggling to address. In developing countries like Mali, the issue is worsened by the lack of adequate resources to promote better practices. Women are the primary users of plastic bags and also among the first ones likely to be affected by plastic bag pollution in Mali, particularly if they are poor. However, they have been neglected in policymaking in general, and in the search for solutions to plastic bag pollution in particular. Below are some recommendations that may enhance women's participation in policy making.

First, women in Mali have the knowledge to address issues regarding environmental degradation caused by plastic bags. As such, they need to be involved in any attempt to solve these problems. This approach would count women as full partners in all development initiatives. The Malian government's current development approach fails to fully address gender inequalities, even though in some cases they recognize the need to build women's participation and empowerment within development and policymaking.

Second, in the context of this study, the government of Mali has recently, in November 2013, adopted a bill banning plastic bags. Due to the current institutional and security crisis in the country, this can be regarded as an act of courage and commitment

to the protection of the environment. However, a legal ban of plastic bags is not enough. One of the challenges of the ban may be a lack of supporting policies. In addition to a ban, supporting policies need to be implemented that aim to promote the involvement of women and the manufacturing industries.

Mali's government should use existing women vendors' organizations to leverage support for a plastic bag ban. For example, in Rwanda, the government has placed women vendors in the center of their efforts to address plastic bag pollution. The government of Rwanda continuously connects with women vendors' groups at the markets to encourage them and provide support in order to transition away from using plastic bags.

Likewise, the Malian government needs to be firm with local plastic manufacturing industries to enforce the ban. However, the government should also respect the concerns coming from the manufacturing industries. The government has recently agreed to provide a tax break for industries to purchase both equipment and the raw materials needed to manufacture biodegradable bags. In addition to this promise, the government should be attentive to the lengthy bureaucratic process required for industries to qualify and benefit from this tax break. Mali government has proved that it has the political will. Now is the time to put political will into practice by including women vendors' voices and creating incentives within the manufacturing industry to strengthen the potential for the ban to be more effective.

As with many other issues in Africa, plastic bag pollution is the consequence of poverty, lack of good governance, and environmental justice. In order to effectively reduce plastic bag pollution in Mali, I would recommend that Mali engage in a robust

sensitization campaign for consumers through women vendors' groups rather than just banning the use of the bags.

The taxing of such bags could also provide funding for recycling, as money was identified as one significant obstacle to institutionalizing more environmentally friendly waste management. One challenge coming from taxation relates to good governance. As mentioned in Chapter IV, Mali's government struggles to effectively implement and enforce policies and regulations. Indeed, women vendors voiced their concerns about the government's failure to provide basic waste management services. Considering this, taxation as a solution may not produce the desired results due to poor governance.

Supporting policies such as taxation, consumer education using women vendors' groups, could possibly be helpful in reducing plastic bags use and pollution. However, the success of these approaches will be limited without real policies that include women vendors as well as the manufacturing industry, as they are the key agents in this process. Persistent poverty can also add to environmental damage therefore addressing the root causes of poverty and increasing the living standard of people in the country may also be important steps towards for improving the environment.

## **APPENDIX A**

### **LIST OF ACRONYMS**

UNEP: an agency of the U.N. that coordinates UN environmental activities by assisting countries in implementing sound environmental policies and practices.

MNLA: Tuareg National Movement for the Liberation of Azawad



## **APPENDIX B**

### **DEFINITION OF TERMS**

Indigenous knowledge: Original and ancient expertise and knowledge used naturally by local people in Mali

Environmental justice: Fair treatment and sharing of advantages and disadvantages of damages caused by in the surrounding environment

Pollution: Action of damaging our surroundings with man-made waste

Biodiversity: Biological diversity with different species of plants and animals

Recycling: Process waste for safe reuse

Sub-Saharan Africa: African countries situated at the south of the Sahara desert, 49 countries

U.S. President's Anti-malaria fund: Created in 2005 by President Bush as a new U.S. commitment to spend \$1.2 billion between 2005 and 2010 to cut malaria related deaths by 50% in 15 countries in Africa, including Mali

Global North: the world is split into two big parts: the global North or "Core" countries are the developed and the Global South is the underdeveloped.

Bazaar: Daily local markets mainly in developing countries where fresh food and other stuffs can be purchased

Bamako: The capital city of Mali

Bougouni: A commune, village located at 170 km south of Bamako

Koulikoro: A region located on the western part of Mali, on the bank of the River Niger,  
70 km away from the capital

Public impact: Direct effect of influence on all the people, members of the community or  
the nation.

Ansar Dine: (Arabic) Defenders of the faiths

Medersa: Classic school in Arabic

Koranic school: Study groups where children learn how to pray and recite Koran

## APPENDIX C

### WOMEN PARTICIPANTS' INTERVIEW QUESTIONS

- 1 Could you please tell me your name, age, education, your marital status and the number of people in your household?
- 2 Why did you become a vendor at the market?
- 3 How long have you been selling at the market?
- 4 What products do you sell at the market?
- 5 What do you use to wrap the products your customers buy?
- 6 Where do you get your plastic bag supply?
- 7 How many plastic bags are in a packet?
- 8 How many packets of plastic bags do you use in a day?
- 10 Do you pay for the bags? If yes why do you give it for free to your customers?
- 11 Do you fear to lose your customers if you do not put their items in a plastic bag?
- 12 How do you feel about plastic bags?
- 13 Do your customers bring their own shopping baskets or bags to the market?
- 11 Can you tell your customer to bring their own reusable shopping bag or basket?
- 15 Do you know how plastic bags are made?
- 16 Do you know that plastic bags are harmful to health and Environment?
- 17 What do you think can be done to reduce the effects of plastic bag pollution?

18 Do you shop with your own basket?

19 If you had the choice will you use another alternative for example paper bags or bags

made with coconut fiber? Why? And why not?

20 What do you think Mali Officials could do to about plastic bag pollution?

## APPENDIX D

### INTERVIEW QUESTIONS FOR MALI OFFICIALS

- 1        Could you please introduce yourself and tell me since when you occupy this position?
  
- 2        Can you tell me the duties and responsibilities of your Department?
  
- 3        Is there any national policy in Mali regarding pollution in general and plastic bags pollution in particular? Are there any recycling at the national level?
  
- 4        Recycling is done in the West and sorting is done first at the level of most households.  
  
Can we replicate this in Mali?
  
- 5        How did Mali government come up the idea to ban plastic bags? To you think that banning plastic bags is the best solution?
  
- 6        What are some of the accompanying measures the government intends to take to support the ban of plastic bags?
  
- 7        Instead of banning plastic bags, why didn't the government put in place a reliable waste management system?
  
- 8        Mali officials collaborate with pharmacists and keep emphasizing that they are the biggest users of plastic bags, how about women? What role can women in Mali play to address this issue? Why don't you involve women in the process?

- 9 Is the Ministry of Environment consulted when low-income houses are built or when town planning is elaborated?
- 10 Are you proud of your capital, Bamako and your country, Mali in terms of sanitation and cleanliness?
- 11 Rwanda is one of the African countries to ban plastic bags. Have you tried to look at their model and learn from their successes and failures?
- 12 Can you tell me about funding allocated for the protection of the environment?
- 13 I know that there a liquid waste management center in Bamako and I would like to know if there is a solid waste management center in Bamako?
- 14 Right now when the waste is deposited in transit center what happens next?

**APPENDIX E**  
**MARKET SETTINGS IN MALI**

Participant Selling Cooking Ingredients at Bougouni Market



Participant Selling Onions at Koulikoro Market



Display of Cooking Ingredients Wrapped in Plastic Bag at the Bougouni Market



Market Setting in Bougouni





Goat Wandering for Food after Market Day



Reusable Shopping Basket



**APPENDIX F**  
**PUBLIC GARBAGE DUMPS IN MALI**

**Public Dump in Samé, Bamako on the Road to Kati**



**Picture of me (Researcher) on a Public Dump in Koulikoro near the Market**



**Drainage Blocked by Plastic Waste in Bougouni**



**Garbage Likely to End into and Contaminate River Niger in Koulikoro**



**Donkey Cart Carrying Household Garbage to a Public Dump in Bamako**



**Woman Sweeping after Market in Bougouni**



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