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Rural Development and Natural Resource Management



The Goats are Dying:

Grassroots initiatives to tackle unwanted plastic
garbage in Burkina Faso

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EX0681 Master Thesis 30 hp

Swedish University of Agricultural Sciences

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Abstract

In Burkina Faso plastic refuse is starting to become a physical threat to humans, livestock and the environment. In light of concerns that plastic garbage is becoming dangerous there are three grassroots initiatives that have sprung up to address the plastic garbage problem. This paper examines the scope and ability of these initiatives to address the plastic refuse problem. Combining and abstracting the theories of Robert Da Matta, Thomas Kuhn, Garret Hardin and Elinor Oltrum this paper presents why these initiatives have arisen, what they can achieve and why they are viable options in the fight against plastic garbage.

"And Man created the plastic bag...and this was good because Man could then take his automobile and buy all his food in one place and He could save that which was good to eat in the refrigerator and throw away that which had no further use. And soon the earth was covered with plastic bags...and there was nowhere to sit down or walk, and Man shook his head and cried: "Look at this Godawful mess." — Art Buchwald

1.0) Introduction

In Burkina Faso plastic refuse is starting to become a physical threat to humans, livestock and the environment. Contrary to this though, plastic garbage has only really been addressed by a limited number of people in Burkina. Very few seem to recognize plastic as a material of concern and fewer still have taken action to prevent it from being disposed of in the landscape. During my stay in Burkina Faso I started to notice a clear distinction between the conversations I was having between Burkinabé¹ and foreigners. Foreigners on many occasions noted the plastic garbage and made their negative opinions abundantly clear, but in contrast I do not believe that I once heard a Burkinabé refer to the garbage, as a problem or not, unless it was influenced by an outsiders perspective, such as my own. I became highly intrigued by this and decided to investigate whether indeed the plastic garbage was at all perceived to be an 'issue' and whether there was anything being done to address the 'problem' in Burkina Faso.

This paper explores three initiatives that have been started in reaction to, or as a consequence of, the abundance of plastic in the streets. The people in these grassroots initiatives² have taken up the cause of addressing plastic for a variety of reasons and this paper examines the scope and ability of these initiatives to address the plastic refuse problem. Combining and abstracting the theories of Robert Da Matta, Garret Hardin and Elinor Ostrum this paper explores the construction of the private and public space and how consequentially this has had an impact on garbage in the streets.

¹ Burkinabé is the term used for those who come from Burkina Faso, including any one of the 60 or so ethnic groups that exist within its borders and a number of those living in neighboring countries that have moved for economic, political and cultural reasons.

² This paper use the word grassroots as a movement that is sparked from the bottom up based on the perceived needs of those at the local/community level who start the process of change themselves. When the word initiative is used it is in connection to the three grassroots movements described in this paper.

Using Thomas Kuhn in combination with the concept of landscape amnesia this paper presents why garbage is persisting in the landscape and why change does not seem to be occurring. Finally in adapting Igor Kopytoff's notions behind the need to track commodities through their lifecycle this paper argues that infusing the current 'death' of the plastic with a new value will reenergize its value and bring it into a sphere of usefulness that will prevent it from being discarded without thought. In effect this paper presents why the three initiatives have arisen, what they can achieve and why they are viable options in the fight against plastic garbage in Burkina Faso.

This research will shed light on plastic refuse in Burkina. It will present how people perceive the plastic and what the perception have led to. It will also examine the current use of plastic and what potentials exist with plastic in the future. Some Burkinabé are going about addressing plastic garbage in a productive and creative ways. Certainly what some view as a problem and what others perceive are very likely to be different. This is part and parcel as to why there are plastic bags floating around or snagged on trees everywhere in the Burkinabé urban and rural landscape. Much like children are encouraged to always ask questions because there is a strong likelihood that others in their class have the same question or concern, I feel I am obliged to do the same here. I feel this is an issue that others will have an interest in but simply have not gotten to the point of raising their hand on yet, in Burkina Faso and/or other developing countries. My greatest hope is that by pulling this issue into a kind of limelight, by way of my master's thesis, that it may be further approached and expanded on. As the common saying goes 'there are no limits to creativity', which can be debated in an academic setting, but I believe that it is when one faces a problem that one has the impetuous to take on creative approaches to solve the issue at hand. It is when problems present themselves that solution are found and this thesis is an attempt to explain the creative attempts at solving problems, such as the plastic issue in Burkina Faso. Plastic is being recognized by handful of people in Burkina and they are taking the issue and running with their fantastic approaches to solving the problem and in the process they are opening others eyes to the fact that plastic is a problem.

1.1) Research Problem

There are two major questions that I seek to address in this paper:

- Why do such a large number of people in Burkina Faso throw plastic everywhere in urban and rural areas, despite its consequences for humans, livestock and the environment?
- What does this act of littering tell us about how Burkinabés perceive the public and private space, the environment, and collective and individual responsibility?

At the heart of each question I am trying to better understand the socio-cultural context of these functional approaches to plastic waste. I would like to establish what it is that makes them, the initiatives that are springing up to tackle the plastic problem in Burkina Faso, viable³ garbage reduction techniques. To achieve this I will explore how Burkinabé view the plastic bags strewn about in the street. I will present what I see as a dependency that has arisen in Burkina Faso on plastic bags and what role this has played in leading to the current physical consequences of plastic garbage. Finally I will conclude with what these initiatives can achieve by examining what place the transformation of plastic bags, into something functional, could have in how Burkinabé perceive and treat garbage.

1.2) Methods

In undertaking this thesis a rather ad hoc approach was used. Though ethnographic in that the four methods that I used fall under that methodologies purview, this paper cannot be presented as a work of ethnography in the purest sense of the concept. I however spent my time over a four month period doing field research in Burkina Faso. I carried out research on three initiatives. Due to a number of complications during the research this paper will only focus with specifics on one initiative (GAFREH) and draws support from two others (Ouagadougou Recycling Centre and the Rose Bere Bracelets).

The first method I used was highly informal as it was based on personal conversations, discussions and observations. The point of this initial approach can be linked to the fact that I presented myself in Burkina Faso with a research idea that fell through. I therefore found myself at a loss as to what I would base my research on for this thesis and so was left in a position where I was ‘in-field’ and needing to find something to carry out research on. Not being of a nature to force a topic on myself

³ By using the term viable, I mean in terms of ability that the initiatives have to make a lasting difference in the reduction of plastic garbage in Burkina.

and knowing I would need something that genuinely attracted my attention, I let the topic come to me. Over the course of the first month I was in Burkina Faso I slowly had my attention drawn to the plastic garbage to be found literally everywhere. I made the observation myself that there was plastic in the street but was also drawn to it through personal conversations and discussions with those I met.

The other three methods do not come in any particular order because to a certain degree I attempted to carry out all three simultaneously and to place one before the other would put me in a methodological quandary. Therefore I will present the literature research/review first. Within this method I took a great deal of advantage of the snowball effect. That is to say, I let one resource or actor lead me to another. This is because while being presented with a vague idea as a result of my first method, outlined above, I realized quite quickly that I found myself in a difficult situation due to my inexperience with the topic. There was also simply not a lot of material, academic in particular, to be found concerning garbage recycling of the nature I was interested in. Coupled with the inability to just go and visit the initiative, because I lived at some distance away, I was forced to rely on literature to make my initial progress into understanding the topic.

When I was finally able to go to visit GAFREH in Bobo-Dioulasso I tried to use the structured interview method. I had set my mind to this based on an observation I had made that it would be the most respectful method to use since in Burkinabé society there is a strong emphasis on one's place in a hierarchy. A researcher, young and foreign such as myself, would find themselves in a complex situation in terms of place within the hierarchy. However I felt it best to present myself as lower in the hierarchy so as to avoid conflict, as opposed to assuming a higher status and potentially having to work with someone hostile to my assumptions. This means that carrying out an interview with the director of an Association would require me to be professional and direct. This however was a bit of a failure due to time constraints on the interviewee's part and what seemed to be an overall lack of interest in my objective and so the interview turned rather rapidly into an unstructured format. This then became the method for my subsequent interviews as I found it to be much more effective due to its fluid nature, and I did not experience any complications as I had feared prior to my first interview. The unstructured method allowed me to gather information based on the course of the interview and not only based on a rigid desire to get questions answered. I did, however, use the structured interview method with regards to e-mail interviews. This method allowed me the

ability to get in contact with people I was not able to meet in person, for various reasons, and have my questions answered. I feel that it also allowed my informants the ability to have more time in gathering their thoughts on the issue and present me with clear and formulated answers to my questions.

The final method that I employed while doing research was personal observation. This method was invaluable not only when I visited the initiatives to gather information but also with respect to every day observations of Burkinabé society. I would not have been able to get as strong an understanding of how people orient themselves to plastic if it was not for personal observations. For example being shunned on numerous occasions when I refused a plastic bag after buying something. Not that I was ostracized but there was a clear displeasure in my breaking with the accepted norm and I later came to understand that this had as much to do with the fact that I was flaunting what I had than guarding it from prying eyes. I would never have come about this realization if I had not been able to observe and ‘participate’ in every day activities of life in Ouagadougou.

1.3) Analytical Framework

One of the major constraints for this thesis has been that there is very little academic material to draw support from or inform what I have been researching. There has been very little focus on initiatives that concern themselves with waste disposal and plastic recycling, such as the ones I am presenting in this paper, and this means that there is very little ground on which to build my arguments or substantiate my perspective. Whatever the reasons for this lack of academic material can be left open to conjecture however the lack of material to base my arguments on also presents as an opportunity. This is because it has forced me to be more creative with respect to developing my analytical approach. This means that I have had to adapt the theories and methods laid out by others on unrelated topics and use a syncretistic approach/framework to formulate the basis of my analytical approach. I have relied on these particular works significantly, Roberto Da Matta’s *Two Basic Social Domains: The House and the Street*, Igor Kopytoff’s *The Cultural Biography of Things: Commoditization as a Process, Purity and Danger* by Mary Douglas, Thomas Kuhn’s *The Structure of Scientific Revolutions* and finally I have taken advantage of some of Garrett Hardin and Elinor Ostrum’s differing notions of the Commons. None of these pieces stands in of themselves related to what is detailed in this paper; however each presents arguments that make for fascinating

adaptations if the mind's eye is kept open to the modifications I have made to suit my arguments. The works that I have used to found my arguments can be divided up into three groups.

When defining and highlighting why there is a plastic refuse problem in Burkina Faso, the works of Thomas Kuhn, Roberto Da Matta, Mary Douglas and Garrett Hardin have been particularly useful. Starting with Roberto Da Matta's work on the separation of the house and the street in Brazilian society and seeing a similar separation in Burkina Faso in terms of the analogies of private and public space. I have supplemented his arguments concerning the failure of the government to meet citizen expectations, with those of Mary Douglas and Garrett Hardin, to provide me with the analytical tool to disaggregate the nature of the Burkinabé plastic refuse problem as one that is dominated by a separation of the public and private space. Douglas's work on the socio-cultural construction of dirt, which can be evaluated in the taboos that exist governed by acceptable and profane dirt provides the insight, primarily, into how Burkinabé orient themselves to their private environment. Garrett Hardin gives the necessary framework to deconstruct the public space in Burkina Faso and why garbage is accepted in 'the commons', which I present as synonymous to public space in this paper. Using these different elements of Da Matta, Hardin, and Douglas's approaches, I believe I am able to construct analytical tools that help me present an 'answer' to the question why the situation, concerning plastic garbage, is as it is in Burkina Faso.

When asking the question why the perceptions of plastic are not changing, I have turned to and adapted the Kuhnian argument,⁴ from *The Structure of Scientific Revolutions*, that people are unlikely to leave behind an unworkable paradigm,⁵ even if the paradigm clearly does not work, until

⁴ Granted Kuhn was arguing strictly with respect to scientific paradigms and the relevance to this thesis may seem vague but taking an abstract stance and blending the notions of paradigm shifts with Foucault's Epistemes, at its core, I feel I am left with a statement about change that can be drawn over all forms of shifts in consciousness.

⁵ While using Kuhn's concept of a paradigm, which can be likened to a the notions of an all encompassing world view, may seem somewhat hefty for the topic in this paper, I believe that the idea behind paradigms more adequately aligns with what I am trying to argue than other concepts. This is because while I could use the notion of perceptions, perspectives, or discourses, I find that these do not quite meet my understanding of how people approach garbage in Burkina. The way I see it is that people are more easily able to put themselves in another frame of mind, if only temporary, to grasp different angles of a situation if all one is doing is asking people to perceive a problem. That means Burkinabé would be able to see the problem as a problem if they were made aware of the issue, however by and large this was not really the case. Even after listing the numerous consequences of having plastic in the landscape many of the Burkinabé I spoke to bypassed my arguments as nonsense or noncomprehension and in all likelihood continued with their actions long after our conversations. Therefore, as I understood their approach to garbage I came to perceive it as one that was indicative of any type of garbage and so akin to a paradigm. Also I consider it more in likeness of a paradigm in connection to Kuhn's arguments in that people seem unwilling to abandon how they deal with garbage because they do not see or have any alternatives. If people are not able to take themselves 'out of the box', in this case

a better paradigm can be found (Kuhn, 1962). I use this argument of Thomas Kuhn in an extrapolated fashion to explain why the plastic bags can be found littering the ground just about everywhere in Burkina Faso. That is to say that I have found, and will explore within the discussion section of this paper, that people in Burkina, despite being visually impacted by the plastic bag litter there is by and large very little evidence that a change of collective behaviour will occur any time soon. What I propose is that the plastic initiatives could serve as a mechanism to provoke a new paradigm, which Kuhn stipulates as necessary for change. Currently in Burkina Faso people do not perceive the plastic as a problem and because their current paradigm has molded, shaped and defined their perspective it means they accept garbage (i.e. plastic) as a fact in the landscape. They do not know of it as problem and so they do not do anything to minimize its impact. If people start to recognize value or utility of plastic bags after their initial function and people start to think of this value before they discard them then the possibility for a wider degree of social change with regards to plastic bag use may be possible, the three initiatives that are presented in this paper present themselves as possible instigators of a new paradigm because they open eyes to the plastic. They make some people see that plastic is a problem and they link it to something that people can grasp, livelihood. If the garbage takes on value and could add to the livelihoods of Burkinabé, then the potential for a reduction of plastic in the landscape will increase and as the viewpoint takes on momentum and more and more see that plastic is a problem and can be reduced in a profitable way then the days of plastic strewn carelessly in the streets will be numbered.

The two works that have had a significant impact, on how I have approached discerning the viability of the initiatives, are Elinor Ostrom's *Revisiting the Commons: Local Lessons, Global Challenges* and Igor Kopytoff's essay *The Cultural Biography of Things: commoditization as process* in *The Social Life of Things*. In adapting Ostrom's argument I believe that the three grassroots initiatives stand as examples of how the commons can be respected in the Burkinabé context and so go a long way in diverting the abuse of the public space. In his essay Kopytoff explores the social aspect behind commoditization and, as Arjun Appadurai supports, urges breaking with the "production dominated Marxian view of commodity and focusing on its total trajectory from production, through exchange/distribution, to consumption" (Appadurai, 1986:13) to better understand how the commodity has been socially constructed (Kopytoff, 1986). Kopytoff asks a key question that I feel if answered can go a long way in addressing the plastic issue in

that it is ok to throw garbage out on the street indiscriminately, then I feel that that must be a symptom of being contained within a kind of paradigm.

Burkina. It is absolutely one of the keys to how I have developed my argument, “how does the thing’s use change with its age, and what happens to it when it reaches the end of its usefulness?” (Kopytoff, 1986:66)

These wildly different works all have interesting elements that will contribute to the construction of my arguments. In the discussion section I will present more closely the relevance of each one of the arguments I have presented above and link them to how I feel one could approach the plastic issue in Burkina Faso. If one can link:

- The root of the problem - People do not see plastic as a problem, enforced by the dichotomies of the private and public space;
- The reason why the problem with plastic littering is not tackled;
- And provide a discussion into the possibilities of solving the plastic problem;

Then the first steps towards understanding the plastic refuse problem in Burkina Faso will be discernable and the first steps of action, which the grassroots initiatives represent, can be supplemented with a greater understanding and appreciation for the scope of the issue, out side of it simply being a problem of goats, and other forms of livestock, dying.

2.0) Background

In Burkina Faso livestock are dying due to ingestion of plastic. This is not because goats, sheep and cattle are trying to create variety in their diet but rather it is due to the fact that when these animals are grazing in the streets and fields of Burkina Faso’s cities and villages they cannot avoid accidentally ingesting plastic. The plastic then works its way through the animal’s digestive system, and as an indigestible material, presents itself as a threat, getting stuck and blocking up the digestive system. Eventually this leads to the death of the animal, which is a disaster in many cases as many Burkinabé invest their livelihoods in livestock and can ill afford the untimely death of a goat, sheep or cow. The animals get the chance to eat plastic because plastic has infiltrated every aspect of Burkina Faso landscape. One can nary explore any part of Burkina Faso without seeing some form of plastic litter.

The problem is now also manifesting into a health issue for humans because not only does the plastic get wrapped around shrub and tree branches or break down into tiny pieces and mingle with blades of grass, but it also clogs up sewage systems, dams streams, and simply traps moisture. This

causes a twofold problem in that not only does it create stagnant water where water borne diseases, like cholera and typhoid develop and spread, but it also provides the perfect breeding ground for mosquitoes that carry malaria and the dengue virus. These diseases very often threaten lives in Burkina Faso and, if untreated, can cause death.



Pigs and chickens may be safe from this obvious piece of plastic behind them, but they are just as vulnerable as any other livestock to the digestion of plastic.

With these two serious consequences of plastic garbage combined, one can understand that something needs to be done to address plastic refuse, especially in a country such as Burkina Faso that already has a population struggling with a variety of development issues.⁶ In light of the poor garbage collection infrastructure, which does exist on a limited scale in major towns, but is nonexistent everywhere else, there are a few grassroots initiatives that have sprung up to tackle plastic waste as small groups of people slowly start to recognize the link between plastic litter and the aforementioned problems.

The reason these initiatives stand out as interesting and worth investigating is because in Burkina Faso the plastic bag issue has not yet evolved into a wider public concern as of yet. Though internationally plastic bags have started to receive highly negative attention, in Burkina Faso there is still very little apparent concern directed towards the abundant use of plastic. In Burkina Faso, because hard and soft plastic is so readily available and cheap it means that a ‘plastic culture’ has formed. A plastic culture in terms of dependency, because plastic is relied on not only for its functional purposes but also because it takes on a symbolic purposes. In Burkina Faso despite its function in so many aspects of life, once it has served its initial, and often singular, purpose, i.e. carrying fruits or vegetables home from the market, the plastic tends to lose any and all value and is

⁶ Being a developing country ranked very low on the UN Human Development Index (161 out of 169). Burkina Faso and its citizens have to address a number of poverty related issues from economic stability, gender equality, improved health systems, infrastructure etc.

much too easily discarded. The three initiatives that I have been lucky enough to get a chance to investigate in Burkina Faso are initiatives that not only have the three commonalities that I have noted above, but even more importantly are comparative in that they are extending the life of the plastic. This is vitally important because, and I will present why in further detail in this paper, giving the plastic value once it has become valueless will mean the difference between reducing the plastic in the streets and letting an inorganic material persist in what ideally should be an organic only environment.



A field littered with plastic just outside a very rural village in the Northwest of Burkina Faso

The primary initiative can be found in Bobo-Dioulasso as a part of the *Groupe d'Action des Femmes pour la Relance Economique du Houet*⁷ (GAFREH). This umbrella association is made up of a collection of originally 30 different smaller associations that came together in 1994 to strengthen the regions ability to address and tackle such issues as women's rights, HIV/AIDS awareness, and economic well being of women in the region.⁸ When the harmful effects of plastic bags became a matter of fact in the Houet region, which occurred when people started to realized that their livestock were dying after consuming pieces of plastic, then they started to actively collect plastic bags, whole and in pieces, to prevent their livestock from foraging on and accidentally ingesting the plastic. While the results were encouraging, and goats started living long enough to make it to the dinner table, another problem arose. The plastic bags, useless and unwanted, were still at hand.

⁷ Women's Action Group for Economic Revival in Houet (Houet being the region that Bobo-Dioulasso can be found in).

⁸ Now GAFREH is made up of 117 different organizations and represents approximately 5000 or more women of the Houet region.

In Bobo-Dioulasso, much like most all cities in Burkina Faso, has a very ineffectual garbage collection infrastructure with there being no effective means of disposing of the plastic bags, creativity stepped in. According to Haoua Ilboudou⁹ nobody at the initiative seems to know the exact who, when, where, why and how, but what seems to be generally accepted is the basic concept was stumbled on when a project in Benin was aired on television about a woman who was crocheting and making toys out of plastic bags. Crocheting was the first step for the plastic but soon with Hoaua Ilboudou's experience and the expertise of dressmakers the idea to wash the plastic bags, cut them into strips and weave them into material suitable to make handbags, back packs, toys, rugs etc was adopted as the primary solution to dealing with the accumulated plastic bags.

In 2002 the association, with its plastic knitting concept, participated in the World Bank's Innovation for Development fair and won 10th place and received a monetary prize substantial enough to officially launch the plastic bag collection and recycling project in 2003. With further assistance and support from both the city of Bobo-Dioulasso and various multi and bi-lateral funding organizations the association has been able to maintain the success of the project to the point where it is now self sustaining through the plastic collection, cleaning and weaving and/or crocheting activities. Those who immediately benefit from the project are the women and girls who come from poorer segments of Bobo-Dioulasso, such as those who have been unable to procure employment by other means or rely on the generosity of others for their livelihoods.

The initiative started out with six employees and is now able to support sixty workers, who assist in the ranging activities from plastic collection, cleaning and drying, weaving and selling. GAFREH is now also looking at the possibilities in expanding the recycling effort to include melting the left over or unusable plastic into bricks and other construction materials. With the success that GAFREH has had from its plastic recycling activities it has turned the initiative into a spearhead program because as Christina Lamizana,¹⁰ explains the plastic recycling program is one that addresses a handful of very important issues from sanitation to the environmental degradation to poverty alleviation, in a single project. She further explains that Burkinabé have to grab the opportunity that this project presents and really try and make the most out of it because plastic can

⁹ GAFREH treasurer and the director of the plastic recycling program and self proclaimed one of the first to pick up on the idea that something had to be done about the plastic floating in the streets.

¹⁰ The director of GAFREH.

no longer be allowed to kill the up to 30% of livestock in Burkina Faso.¹¹ By collecting the plastic, Lamizana not only sees an environmental effort though, she also takes pride in knowing that the initiative is providing economic security to women with extremely low income in the Houet region.

The second initiative finds its origins at the Catholic Cathedral in Ouagadougou. This initiative was formed on the skills and expertise of Rose Bere who was trained at the Cathedrals Centre de l'Education des Handicapés. At the centre she had learned to use traditional materials, e.g. grasses and straw, to braid bracelets and jewelry for tourist and traditional purposes. Upon gaining the education necessary in 1991 she started applying her expertise in a small venture, opening a shop, aimed more specifically at tourists. After some time she started to have her eyes caught by the abundance of old plastic prayer mats disposed of indiscriminately around town. More specifically what drew her attention were the colors in the mats and she saw an opportunity in collecting and breaking down the mats for the plastic threads they consisted of. After experimenting with the plastic and evaluating if it could be used she started to use the reclaimed threads as a replacement material for the dyed grasses and other materials she had been using. Now bracelets based on her style and designs can be found all over Ouagadougou and are even sold internationally on a variety of 'African art' inspired websites. Her activities and success cannot be quite as neatly ramified as GAFREH's. Her efforts are interesting in that they provide a more individualized opportunity for poor women in Ouagadougou and so the 'initiative' as such has become quite spread out, as opposed to the localized nature of GAFREH. She employs four women permanently and eleven part-time employees herself, stationed at the Village Artisanal in Ouagadougou¹² but most often when you come across bracelets that are similar to Rose's, being sold on the streets, in reality they will have been produced by an independent and often single woman trying to supplement her income. None the less Rose's contribution to the recycling of plastic waste, though small, is extremely interesting and important. This is because while one may not be able to measure her success on the same scale as the two other initiatives (GAFREH presented previously and the Ouagadougou Recycling Centre to be presented in the next paragraph), she has provided an idea with which plastic waste can be addressed and a livelihood can be made.

¹¹ An estimate made by an anonymous source at Burkina Faso's Ministry of Animal Resources, a figure Andrea Micconi is also quoted using in an International Labour Organizations article about the Plastic Recycling program in Ouagadougou.

¹² A tourist focused market for arts and craft vendors in Ouagadougou.

The last initiative that will be presented in this paper also originates in Ouagadougou though at the hands of an Italian. When Andrea Micconi first came to Ouagadougou he, like many with a ‘western’ perspective, recognized the threat posed by the literal sea of plastic that covered open areas between houses and streets. After gaining some experience in project development and management in Burkina Faso, he set about gathering support and funding for the installation of a recycling plant to be established in the nation’s capital to address Burkina Faso’s environmental degradation due to plastic and alleviate poverty. He realized that the success of an installation such as a recycling plant, having on previous occasions been attempted with no success, would be highly dependent on the degree of support from both the public and private sectors. The idea would be to draw the public into collecting the plastic, then process the plastic and sell it to private sector actors to melt it into new and useable materials. If people could be made to understand that there could be a profit in collecting and selling plastic rubbish to the recycling centre then the project would stand a good chance of success. With a public awareness campaign to point out the negatives of plastic garbage and the positives aspects of recycling, with the aim at getting the poor to collect and drop off plastic at the recycling centre, combined with a 2003 World Bank Development Marketplace fund, Andrea Micconi was able to get the recycling centre going by 2005. And keep it up and running based on experiences that the Italian NGO, International Lay Volunteers Association, with whom he works for, had in Senegal.

The basic outline of what the Ouagadougou Recycling Centre does is to buy primarily hard plastic¹³ off of those who collect and bring it to the centre. Then the thirty employees, picked from the poorest and unable to find any other employment, sort and clean the plastic meticulously by hand. Then the plastic is loaded into machines specially designed to grind the plastic into small pieces, or pellets. The plastic pellets are then sold to enterprises in Ouagadougou that can further manipulate the materials, primarily via melting the plastic, into re-useable materials such as plastic bricks, chairs, and school supplies, to name but a few. The success of the Centre has been so high that a local women’s association has been able take over the operation of the facility and now runs the Centre with US\$52,000 annual revenue. That the Centre is now self sustaining with such high revenues means that those who collect the plastic from the streets in Ouagadougou are paid

¹³ Due mainly to the fact that the pickers get paid by weight and so hard plastic has quite naturally become the plastic of choice to sell to the centre.

approximately US\$.04 a kilo and can make up to about US\$800 a year. This is significant in a country that has a national annual income average of about US\$500.¹⁴

Each initiative has been chosen and highlighted in this thesis because they target a different form of plastic waste but there are three common threads can be traced through each initiative; each one deals with plastic (hard and/or soft), each one addresses a perceived threat to the environment or livelihoods, and each one has developed a new source of generating a livelihood for the poor. That there are very few commonalities between those who lead these initiatives, the women involved come from a range of social and educated backgrounds, it is interesting to find commonalities between the initiatives. Burkina Faso is a country with a fantastic example where unfortunate circumstances have given rise to collectively addressing an issue, plastic garbage. This has presented with thoroughly fascinating creative solutions to issues such as poverty and environmental threats. The initiative started by individual women of Bobo Dioulasso and subsequently expanded by GAFREH is exactly such a solution that by way of happenstance ameliorates poverty and addresses an environmental issue.

3.0) Discussion

The first time I truly became aware that people in Burkina Faso actually do approach garbage differently than I do, was when I was out for dinner with a Burkinabé friend and my Danish roommate. We ate a traditional fish and rice dish and drank water from the ever so common sachets de l'eau. It has been impressed on me that this means of containing and drinking water and other liquids (i.e. juice, soda pop etc) is highly common in all of West Africa and it consists of 250-500ml clear plastic bags containing water. When you want to drink from these bags you rip off the tip of a corner and suck/squeeze the water out. It is an extremely cheap means of 'bottling' water. In any case the common practice when one has completed drinking from these bags is to drop or throw it away. Not in any particular direction but simply away, often out onto the street. This was exactly the case with my Burkinabé friend, who after having sucked out the last drop of water threw it over his shoulder into a gutter. On the other hand both I and my roommate discretely scrunched out sachets up once we had dispatched the water and stuff them in our pockets with the intention of taking the sachets 'home' and throwing them in our garbage bin. Looking back I realize now how

¹⁴ According to the United Nations Statistics Division,
<http://data.un.org/CountryProfile.aspx?crName=Burkina%20Faso>

futile this practice was because the plastic with a high probability would eventually just end up out on the street anyway, or in the best case would be burned.

The problem in Burkina Faso is not necessarily that there is plastic garbage. To a certain degree plastic, due to its inability to biodegrade, and its tendency to escape garbage cans and dumps all around the world will mean that it will always be present in some degree as a part of our human impacted environment. This is an inevitable reality. The problem with plastic garbage in Burkina Faso is that plastic is simply getting to be pervasive in the Burkinabé landscape and it is starting to have clear consequences. This is a problem made up of three parts, with each part being intricately related and tied into each other. Firstly, to the vast majority, plastic is simply not perceived to be problem in the landscape. When discussing the plastic issue with a patron of a curbside yam fry seller I was asked “what problem?” in response to my inquires. Secondly, people throw plastic away indiscriminately. Which I witnessed personally on a number of occasions as people tossed plastic out of taxi or bus windows. And, thirdly, there is no official effective structure that tries to deal with the garbage where the closest thing one sees to public garbage bins are most often simply old oil drums where garbage is set alight every now and then to make more room. This becomes complex if one tries to break down the ties between the different parts of the problem because, in effect, it becomes a ‘chicken or the egg’ dilemma. Are people responsible because they throw out plastic on the street or, should the government be held responsible because they do not provide the necessary services to avoid plastic trash in the streets? The point of this paper is not to take apart and detail this complex relationship between the government and citizens. However because of the nature of the problem with plastic in Burkina Faso, a brief analysis will have to be presented because the problem seems to be based on a failure of expectations as to who should deal with the plastic, or even more so, it is based on a lack of expectations.

Theoretically speaking, while the plastic refuse could be addressed, and maybe even solved, with a more concerted and effective effort on the part of the government, the lack of expectations places the issue within the realm of a catch-22. If the government is not pressured into having to deal with the problem then there will be no real reason for them to address the issue because they will continue with their understanding that all is well, business will continue as usual. If they do not deal with the problem then people will continue to have a lack of expectation that the government will do something, and so the problem will persist out of this stalemate. Whether the lack of expectation

is one that has always been present, or if it is something that has developed over the course of repeated let downs from the government is not a question I will address further in this paper. If one looks at the political situation in the country though then one can certainly understand that there is a failure of expectations. People expect the government to serve their interests, when the army protests not being paid and loots shops,¹⁵ but at the same time they do not want the government to be too present in enforcing every rule of law and have a greater expectation to be left to their own in this respect. This of course is a conundrum on the political level but if you draw links to the garbage issue then the ideal, from the perspective of most Burkinabé, is that the government takes care of the garbage but that they should not expect to exact the taxes needed to deal with the garbage. If the government cannot expect to exact the needed funds from the populace then they are left at a loss as to how to proceed with the plastic problem. The fact that there is indeed a lack of expectation can be shown in the very existence of at least one of the three initiatives that I have presented in this paper, if not all three.

The efforts of GAFREH grew out of the realization on the part of the association that plastic in the streets was a problem and it was something that they had to be tackled because they did not expect the government would do anything. In Ouagadougou there is a governmental attempt to keep the streets clean in the form of street sweepers, however, this is limited to major routes and is directed primarily at keeping leaves, sand and dust under control as opposed to really addressing garbage as such. There is also an ineffectual garbage collection system that serves the more well off parts of town. However outside of these two examples there is almost no governmental intervention in terms of garbage collection. Of course two of the three initiatives, the Ouagadougou Recycling Centre and GAFREH, subsequently have received at least some degree of financial support from the Burkinabé government. This is a far cry from actually addressing the plastic refuse issue ‘hands-on’ through a government inspired initiative.

3.1) Private and Public Space

Roberto Da Matta’s argument, that the public and private exist as two opposing forces in the governing of space, can be used to explain why there is a lack of expectation, because the Burkinabé context consists of the two social domains, that Da Matta examines in Brazilian society,

¹⁵ As occurred off and on from February to May, 2011, when low ranking soldiers protested a number of governmental actions by driving around town, shooting and looting to express their dissatisfaction.

that of the house and the street. This is because in Burkina Faso there is a strong emphasis on the importance of ownership of property. Burkinabé take a great deal of pride in the ownership of their property, and while they may share and openly welcome extended families and friends on a constant basis, at the core one of the most important elements of being accepted as someone of worth in Burkinabé society is to be someone in the possession of property. When there is an importance placed on one's private space, and the property ownership that comes with it, then this stands in contrast to everything else, such as the street and space between houses, being placed in the opposing realm of public space. Roberto Da Matta notes that in Brazil, especially linking his arguments to the time of the famous Carnival celebrations, the street, in contrast to the controlled private space, is a place viewed to be an uncertain place where there is only a reasonable expectation of disorganization (Da Matta, 1991). Da Matta argues this to be a persistent perception until “some form of hierarchical principle can surface and establish some kind of order” (DaMatta, 1991:65).

As in the Brazilian context, in Burkina Faso there is a clear distinction between the house and the street, however as alluded to above, in Burkina Faso, there seems to be no expectation that a hierarchical principle will exert its authority. From my own observations there does not seem to be any presumption, on the part of most Burkinabé, that there will be a controlling mechanism that will bring order to the disordered, or polluted, public sphere. In Burkina Faso there is an emphasis on the private space and sphere where the family is placed above everything and where family members can always depend on familial support. And so, like the Brazilian context, in Burkina Faso, “the street is to lack of control and mixing with a multitude of persons as the house is to control and authoritarianism” (Da Matta, 1991:64). Whether this is a reflection of a lack of expectation that one can rely on the public institutions to defend one's interests or that the public space suffers because of the traditional family based system that places emphasis on the dimensions of the private institutions, is hard to say. However, it speaks to the oppositional dimensions of how the public and private spaces are constructed in Burkina Faso. Due to this generally speaking people in Burkina are structured to understand the public space as the opposite to that of the private space. This means that those entities that exist as authorities in the public space, such as the government who is seen to be ‘in charge’ of the public space, take on some of the negative characteristics (disorder dysfunction, inefficiency) of what the public space means to Burkinabé. Those entities that are supposed to enforce government control in the public space, such as the police, are lauded for their

inefficiency and decrepitude and little respect generally seems to be paid to the official institutions of government.

This stands in contrast to the private space where strict hierarchy and control is the rule. This means that in the private space, a house or office alike, there is someone somewhere in the hierarchy whose position it is to pick up the garbage. If someone at the top throws a piece of garbage on the floor for whatever reason, someone will pick it up. When you escape the borders of what can be considered the private space, as noted previously, then the strength of the hierarchy loses its ability to keep order. This means that there is no expectation that someone at the lower rank will clean up after someone at the top and the ability for someone to throw out a piece of plastic carelessly exists with everyone. As such the garbage remains where it has been thrown in the public space, whereas had that garbage been thrown away within the parameters of a private space then someone would have picked it up and discarded of it in an appropriate manner.

One element that makes Burkina Faso and Brazil both fundamentally different and alike on the same token is the extension of Da Matta's argument that the street and the house are separated domains. Da Matta presents that the two are not rigid in their boundaries, at least not in the Brazilian context. He asserts that there are certain public spaces that take on elements of the private space, such as the town square (Da Matta, 1991). This is where the house and the street can blur into a zone where the structure and organization of the house, the private space, tries to colonize the disorder of the street, the public space. Where it is different in Burkina Faso is that the doorstep is the extent to which people extend their authority. The street becomes, by and large, the street rather abruptly and the public space rules once you are within that space. There, however, is an exception to this rule, the shade of a tree. In Burkina Faso you will often see people congregated under the shade of a large, or sometimes even a small, tree. This is maybe not so strange when one considers the strength of the sun and the power of the heat in Burkina, which at the very least will sap all one's energy. The shade of a tree, it would seem, is one space where the dimensions of the private space are laid out over a public space. The ground is kept swept and by and large garbage is kept cleared away (maybe simply haphazardly pushed away from the sitting area but non-the-less removed in a way that does not generally exist in other public spaces). In demarcating the shade of a tree at high noon, with elements akin to the organization of the private space, allows people to comfortably rest, often dozing off, and feel 'at home'.

I believe Da Matta's arguments can be abstracted to further appreciate why Burkinabé use plastic bags so profusely. In Burkina Faso the idea of possession extends not only to property but also to purchases of mundane objects such as fruit from a street vendor. Where it becomes exceedingly interesting is that the plastic bag becomes a means of symbolizing the boundaries that exist between the house and the street. Once the items are in the bag, then that which is within the bag becomes an extension of the house, organized and controlled with a clear boundary. The items become protected from the prying eyes of others and the disorganized world of the street. This could possibly explain, to a certain degree, why plastic bags are so consistently used in Burkina Faso. There is an expectation on both the purchaser and seller's parts that each item will be placed in a bag and then those items will be placed in yet another bigger bag. Though of course there is a good deal to be said about the pure functional aspect of the plastic bag as a material that needs to be used to carry purchased items, one can certainly see the logic behind the deconstruction presented. In a country where there is no expectation that the public space will provide the security over private property and that the private space has to be guarded meticulously both from intrusion of dirt, Burkinabé by and large keep their private spaces immaculately clean, and intrusion of prying eyes and invaders, walls are very often erected to both denote the boundaries of ones property and keep unwanted intruders out, then the carrying material such as the plastic bag does not simply have a practical function but also a symbolic function.

To better discern the differences between the public and private, beyond the disorganized vs. organized expectations that Burkinabé have of those spaces respectively, the focus will now shift to specific evaluations of the private space and then the public space.

One of the fundamental aspects of Mary Douglas' arguments is that she stipulates that in all cultures that which is considered dirt is simply matter out of place (Douglas, 1966). Therefore, in essence, taking her statement and applying it to plastic it is a material that has a transitory existence in the Burkinabé context of the private space. Generally speaking it is in the house that plastic goes from being an accepted material to something classified as profane. That is to say that plastic, take for example a plastic bag, is an object that has been brought into the home with a function and therefore it is kept within the realm of acceptance. However once it is no longer of use then it transitions to being something akin to Douglas's 'dirt'. This uselessness can be either temporary or it can be

permanent depending on the quality and condition of the material. For example if a plastic bag is perceived to have a foreseeable use then it is saved for that use, or if it is of a sturdy quality such that it can possibly be used over and over, as a multipurpose bag, than it will also be saved. However if the plastic is viewed to be of a poor quality then it will be relegated to a realm where it is not accepted. It will start to take on the characteristics of something that does not belong. It will become useless and dirty, especially so once it has been thoroughly contaminated by coming in contact with other materials relegated to the realm of dirt, for example other materials that have found their way to the garbage can. Once this transformation has occurred from an object that has use to one that is perceived to no longer be of use, then it is deposited out on the street without qualms because the plastic has become like any dirt that simply needs to be expunged from a world where it no longer belongs, exiled along with all the other dirt.

Linking the previously examined arguments of Da Matta with Douglas who argues that “in chasing dirt, in papering, decorating, tidying, we are not governed by anxiety to escape disease, but are positively re-ordering our environment, making it conform to an idea” (Douglas, 1966:48), one can then see the distinction of the private space as an organized and clean environment. That which is considered unclean is swept together, or collected in a container, and then thrown out. As Douglas notes dirt is something that does not fit into a pattern and causes a break with the accepted order of things through its ambiguity (Douglas, 1966). With Da Matta denoting the street, i.e. the public space, as a world ambiguous and devoid of order (Da Matta, 1991) then it does not seem so odd that Burkina Faso are expelling that which causes disorder and ambiguity into a world that is already perceived to be disordered, ambiguous and unclean.

A further analysis is that all three of the initiatives, which collect and recycle plastic, to a greater degree are not functioning solely on altruistic actions and the focus is shifting more and more on revenue. This is because the emphasis, in a country suffering as one of the poorest in the world, is being ever more placed on poverty reduction. The initiatives can gain more official support from donors if the scheme is directed towards reducing poverty. As the ventures gain the options for economic sustainability then the ability for them to have a stronger impact on reducing poverty is increased. This means that the general focus of the three initiatives has been directed towards earning enough money from their initiatives in order to support the poor. Through this process the initiatives, are moving away from an over all concern for the public space. This would seem to be

counter productive to the aim of the initiatives, however, in turning their concern for the public space into a venture they are conceptualizing the public space based on the dimensions of the private space, as a means of generating possessions gained through an income; and so effectively they are colonizing the public space with notions of possession and order. Doing so means that the public space stands a good chance of being cleaned up because of the extension of the private space over the public space, especially if the notions of cleanliness that exist in the private space can also be exported to the public space.

Bringing Garret Hardin's and Elinore Ostrum's arguments into the fray one can begin to grasp that the plastic refuse issue in Burkina Faso is a rather complex issue, because it is simply not one that is based on the actions within the private space, but that the behaviours that define the orientation to the private space are being reflected into and defining the orientation to the commons/public space. That means that while Da Matta and Douglas denote that within the private space organization and structure rule the opposite is then reflected in the public space. This leads perfectly into Garret Hardin's famous work establishing that there is a potential for a Tragedy of the Commons,¹⁶ because while Burkinabé put so much emphasis on their property and exert control over it, as discussed above, the public space is not one that figures prominent in their consciousness. The public space, streets and open spaces between houses, do not fall under the purview of anyone's responsibility, except for vaguely the government. However because the government does not exert control over these spaces then the expectations, as noted earlier in this paper, that someone should do something about garbage in the street do not exist. While the public space presents as a highly useful arena for a number of every day activities, such as for transportation, hawking wares, meeting acquaintances and being social outside the private space, there seems to be very little responsibility felt for its upkeep and it is simply a resource that everyone takes advantage of. As Hardin warns, "freedom in a commons brings ruin to all" (Hardin, 1968:1244), which seems, in the current context, to be very true of Burkina Faso if you grasp space as a resource, much like fish or wood or livestock, then one can also call public space a resource and link it to Garret Hardin's notions of the commons.

¹⁶ The Tragedy of the Commons is an essay that Garret Hardin wrote in 1968, where he highlighted his theory that common resources often end up being abused because those who partake in exploiting a common resource use it for... their own gains without thought to the impact their actions, as single users, have on the depletion of the resource and what that means for other actors using the same resource.

3.2) There is little that is Changing

Moving on to why the conditions in Burkina Faso, with respect to plastic refuse, do not seem to be changing I have evoked Kuhn's argument for scientific revolutions and paradigm shifts. However this is very much a major adaptation since Kuhn only used his argument for paradigm shifts within the scientific world and did not urge his argument as applicable to other circumstances (Kuhn, 1996). My argument somewhat draws out more on the resemblance of Kuhn's paradigms to Foucault's epistemes and therefore I feel I am able to take the liberty and benefit from Kuhn's argument regarding paradigm shifts. There is a large resemblance between Foucault's concept epistemes and Kuhn's paradigms. In Foucault's case, though, the episteme is not as all embracing and definite as Kuhn's paradigms. The changes from one episteme to another are similar to how Kuhn depicted the transformation, i.e. revolution, from one paradigm to another, but Foucault argued more specifically that the transition from a episteme, to another was not one that occurred abruptly and completely replaced the old episteme but rather that one just becomes dominant. The episteme constitutes a dominating formation of discourses, which structures and contextualizes the other discourses (Foucault 1980). Foucault also did not restrict epistemes to scientific paradigms but rather noted a broader applicability to his arguments. Kuhn argued that new paradigms do not emerge just because the facts are added up but that the shift occurs because the possibilities for change become obvious in combination with the accumulated facts (Kuhn, 1996). A new possibility presents itself and the observations that have presented themselves in the past, but have not been plausible suddenly make sense in the bigger picture. The new event presents as a revelation and this revelation causes a paradigm shift.

The reason why Thomas Kuhn's theories makes sense, in the Burkina Faso context, is because of his arguments using the Copernican Revolution. Without getting to technical, Kuhn argued that the reason why Copernicus' ground breaking cosmological assertions¹⁷ did not take hold at first is because he was presenting a model that was not based on accurate calculations, using the tools that he had at his disposal design for another cosmological model, and so did not outshine the old Ptolemaic view (Kuhn, 1996). Then over the course of time other theorists, Galileo and Kepler included, within their fields started to develop theories that were not dependent on the Ptolemaic model (Kuhn, 1996). With the assertions of Galileo, on inertia, and Kepler, on planetary orbits,

¹⁷ That the earth revolves around the sun.

being accepted to a certain degree within their own scientific fields, it allowed for Isaac Newton to draw on all three (Copernicus, Galileo and Kepler) to present a new scientific paradigm that shattered the old one (Kuhn, 1996). In the Burkinabé context Kuhn's arguments, with intrusions from Foucault to soften Kuhn's restrictive arguments, makes sense because the facts are adding up to cause shifts in perspectives. Plastic garbage is being linked to the death of livestock. Plastic waste is providing the breeding ground for mosquitoes, plastic is being vilified globally. What is needed is that final piece of the puzzle that will open people's eyes to the garbage.

The current paradigm that shapes peoples realities does not allow them to perceive the plastic floating around in the streets as a problem. They view it as a natural aspect to their surroundings and environment and so in throwing plastic out in the streets they do not grasp their actions to be an issue that adds to the accumulation of garbage in the streets. One plastic bag or one scrap of garbage discarded is not view to be a part of the problem. The shift that will occur, if the three initiatives are successful, is that people will come to realize that plastic is a problem. They will see it for what it is, a plague on the landscape that is choking out their fields and causing livestock death. The initiatives would not find success if it was simply a matter of demonstrating the problem to the populace, because people on average cannot afford to care as it stands right now. However there is a possibility that they will show more care if the plastic is linked to the potential of improving their circumstances. If they can supplement their livelihoods then they will start to care about plastic as a commodity. Caring about plastic in turn will mean that they will start to actually see the plastic in the streets. Seeing the plastic will open their eyes to the effects it is having in the streets. This in turn will change the perception of the public space as they will not be able to simply accept plastic in the landscape, as they do now, and their livelihood enhancing actions, collecting and transforming plastic, will be justified and reinforced.

In Burkina Faso I argue that it is possible to apply Kuhn's arguments to get a sufficient grasp as to why things do not seem to be changing. If one evokes the concept landscape amnesia, that if change occurs slowly over time it is practically unnoticeable, then it becomes clear the state of the landscape has been allowed get to this point in Burkina Faso, where plastic refuse is inescapable, because the change, in this case plastic pollution, has been so gradual. People just have not noticed it as a growing issue until now where some, and for now it truly is only some, are starting to realize the problem because the negative consequences are becoming too apparent to ignore. Couple the

effect of landscape amnesia with Kuhn's argument that people do not put aside one paradigm and pick up a new one until a reasonable new paradigm is present (Kuhn, 1996) then it is not a stretch to understand that the position is rather complicated in Burkina Faso. It would not appear that any new paradigms have presented themselves as viable enough to cause people to stop throwing garbage, and especially plastic, out on the street. This being the case even though, plastic is starting to accumulate so thick in some places that it is competing with small shrubs and grass to block out the sight of the ground. Therefore this is one possible reason that the plastic refuse issue has continued to the present day.



There is no such thing as blue Bougainvillea flowers like the pink one in this picture. Based on color the blue piece of plastic fails the flower test but one can imagine how indiscernible this piece of plastic may be from the flowers and how easy it would be to consume the plastic while grazing.

3.3) There is Reason for Optimism

There is reason for hope because the initiatives that this paper presents represent some of the few instances where neighborhood groups have tried to exert control over the public space through their efforts and therefore are presenting the beginnings of what could be a sustainable, or 'workable', new paradigm. Drawing on the positive aspects of Elinor Ostrom's arguments that as long as there are specific factors then there does not necessarily have to be a tragedy of the commons, then change with respect to plastic refuse could be on the horizon in Burkina Faso (Ostrom, 1999). Elinore Ostrom argues that in order for a community to successfully manage a common resource than certain factors have to come into play:

- The management of the resource has to be a community effort.
- There have to be rules and regulations that are community based to provide incentives or punishment for abuse of the resource.

- The resource has to have a clear boundary so as to be more readily managed.
- The resource to be managed needs to be clearly threatened.

While none of the initiatives necessarily meet every one of Ostrom's requirements for the successful management of the commons, then at least meeting some of the factors that she presents could be considered a step in the right direction for these initiatives to make a difference. Taking GAFREH as a prime example, while they do not try to mobilize the whole community as such, the selection of the "people working in this center is not by chance. The direct beneficiaries of the proposed recycling bags are women and girls from poor areas of Bobo-Dioulasso. The division of labor reflects the age. In fact, women with more than fifty are not excluded, they take care of washing bags. Giving them substantial enough income. Also suppliers of bags are women or young beggars commonly called garibou 'from poor families'" (Iboudo, 2011b). The initiative mainly focuses on providing support to poor women and children but through their efforts they collect a significant portion of the populace to address the threat to their livestock and by extension the threat to the commons. Being an effort that is built into an official association then there are clear regulations that provide the needed stipulations on the protection of the resource. The incentives and punishments are clear too, as the clean up of the commons is directly linked to a salary and the health of livestock. If the clean up is not effective then the pickers do not get as high a salary because they have not collected as much and as well their livestock have a higher risk of death.

In the GAFREH initiative the resource itself is clearly defined, however, the boundaries of the resource are not as clear. This is because while the resource is livestock, and the commons that the livestock live off of, what the GAFREH, and indeed the two other initiatives, are doing is targeting what is threatening their resource. They are not managing a depleting resource in the 'pure' sense that Ostrom, and even Hardin, refer to as a common resource but rather they are trying to manage the threat to their resource. The GAFREH initiative is not only trying to fight poverty but also "fight against pollution" (Lamizana, 2011) and in Bobo-Dioulasso just like in most African cities, the city is experiencing severe pollution and "these plastic bags 'decorate' the sad tree, 'kill' the soil...and the ministry of [of Animal Resources] tells us that up to 30% of our livestock die from eating plastic" (Iboudo, 2011a). This does not diminish the applicability of Ostrum's argument to the Burkinabé context but rather one simply has to adapt the approach to the 'common threat' as

opposed to the mismanagement of a common resource. That is to say the common threat is the plastic and it is threatening the common resource, the public space where their livestock exist.

Finally to address the last ‘factor’, the resource. Though in reality one could argue, from a business perspective, that for the three initiatives the ‘resource’, has become the plastic and “the mine of raw material is everywhere and open!” (Iboudo, 2011b), originally the resource was the livestock and the public space they foraged in. The initiatives started using the plastic as a resource due to the threat that it presented to the greater resource, the public space. The greater resource for now continue to be clearly threatened, as can be seen from Iboudo’s previous statement regarding the death of livestock due to plastic. Therefore if one keeps the focus on the public space, and the livestock within that space, as the ‘important’ resource to be protected, from the plastic, then when Ostrum stipulates that a resource needs to be clearly threatened it holds true in the scenarios behind the three initiatives.

3.4) Giving the Plastic Value Again

Both the two initiatives, that do not necessarily mesh well with Ostrum’s stipulations for successful management of resources, and GAFREH, should all be considered as successful initiatives in addressing plastic in Burkina Faso landscape because they extend the value of the plastic beyond its current ‘social life’. In this concluding argument, as to why the three initiatives present as viable options for tackling the plastic refuse issue in Burkina Faso, I will present the work of Igor Kopytoff. Much like Mary Douglas presented her arguments as a means of deconstructing societal values through the nature of how dirt is perceived in culture, Kopytoff invokes the words of Margret Mead in stating that “one way to understand a culture is to see what sort of biography it regards as embodying a successful social career” (Kopytoff, 1986:66). In using these words of Margret Mead, Kopytoff means to establish that the same can be said for ‘things’ such as commodities. If you can trace the life of a commodity then you will be provided with the insight to better understand the place and value of that commodity in society. Kopytoff defines a commodity as “a thing that has use value and that can be exchanged in a discrete transaction for a counter part” (Kopytoff, 1986:68).

In Burkina Faso plastic is a commodity that on an individual basis does not have an equivalent value to very many other commodities. It is generally viewed as a free aspect to the purchase of

other commodities. As discussed earlier it does have value in its practical and symbolic functions but this value is not such that someone will exchange a plastic bag for an apple for example because the plastic simply does not have an equivalent value, unless one of the exchangers really needs a plastic bag. As Kopytoff notes, in order for a commodity “to be saleable for money or to be exchangeable for a wide array of other things” it has to have “something in common with a larger number of exchangeable things that, taken together, partake of a single universe of comparable values” (Kopytoff, 1986: 69).

Having already somewhat described the ‘social life’ of plastic in Burkina Faso over the course of this paper I will only briefly present it again. Plastic comes in a number of different formats but by far the most insidious scourge on Burkina Faso landscape are the small low quality black shopping bags. These bags come in large bundles that by and large the most hawkers are able to purchase at a low cost to provide with any purchase to customers. When a customer, as I was on many occasions, decides to purchase something, for example three apples, two mangoes and some peanuts, then each one of those items is placed in a separate bag and then combined in one bag and possibly double bagged if either the seller or purchaser deems the purchases to heavy for just one carrying bag. The individual then brings these items home where the bags are either discarded in the trash, or possibly may be used for some time to contain the purchased items, but over the course of time when the items have been used up the bag will promptly be thrown out. The occasional lucky specimen may be reused for other purposes but eventually every bag ends up either in the trash or discarded in a like fashion in the street. All the garbage of the household will then be collected at some point or other and thrown out into a garbage pile in the street or given to a private garbage collector who will sort through the trash and then burn the rest of the garbage in the street. This means that the plastic will either find its way to the garbage pile in the street to be burned eventually when the pile it too big, or, it will be blown around and naturally break down into small pieces to be ingested by livestock.



Garbage, including plastic, being disposed of by way of burning

With this being the ‘life’ of the black plastic shopping bag the same story line follows for most other plastics as well. Where Kopytoff comes into play in the Burkina Faso plastic recycling context is that his statement, “things can move in and out of commodity state” (Kopytoff, 1986:64) sparks the potential that plastic as well can move back into a commodity state once it has lost its value. And, indeed taking into consideration the value adding activities of the three grassroots initiatives, plastic has the potential to move into a commodity state where it is equivalent to a broader range of other commodities. Revisiting Kopytoffs question, “what happens to it [plastic] when it reaches the end of its usefulness?” (Kopytoff, 1986:66), one has to answer that, at this moment, plastic becomes garbage. The social life of plastic ends at a point where plastic becomes a burden on the environment. If one asks the question with the three initiatives in mind then you get a very different answer. The plastic is no longer garbage for very long. It has been picked up off the street or been handed over to the initiatives and is now something of value. Albeit in all of the cases the plastic is being reworked and remade into new commodities it does not defeat the reality that plastic, for these initiatives, has a value as a resource.

This is the new paradigm that the three initiatives provide. This is what makes the initiatives viable. The three initiatives extend the social life of the plastic and in doing so they provide value to a commodity that, had certainly had a low value to begin with but had lost any and all hope once it no longer had a purpose. Now, in Burkina Faso, and due to the work of these initiatives plastic has a

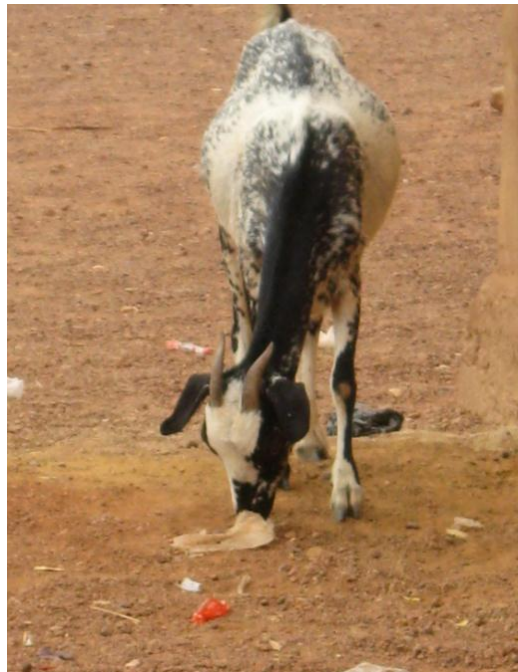
purpose beyond the garbage pile in the street. As well, as the initiatives gain more and more success they start to become beacons for new projects all around the country. There are similar projects to GAFREH's being started in the Sahel region of Burkina Faso and the village of Tiébélé, and a new recycling centre is being planned for Bobo-Dioulasso. However the major step that needs to be taken with these initiatives is to incorporate the final products into Burkinabé society. As of now GAFREH and the Rose Bere initiatives focus on the international and tourist market and while the Ouagadougou Recycling Centre does try, through public awareness campaigns to convince people that plastic is a scourge, in reality none of these initiatives really tackle how you re-introduce the plastic in the recycled format into the Burkinabé society. Of course some of the materials, such as the materials made from the raw plastic that the Ouagadougou Recycling Centre sells to private companies, is rehabilitated in Burkina Faso, it seems that by far the biggest part of the recycled plastic from these initiatives either find their way abroad or stagnate. This however is a concern better left for another thesis.

4.0) Conclusion

I am going to conclude this paper in a simple fashion by stating that the point of this paper has been to establish that if you give plastic positive use value then it will extend its life and prevent it from being discarded in the streets in its current format, as a plastic bag. I have argued with the assistance of Thomas Kuhn and his theory on paradigm shifts that currently in Burkina Faso there does not seem to be any major changes occurring towards the perceptions of plastic garbage. This makes the three initiatives, GAFREH, the plastic bracelets and the Ouagadougou Recycling Centre, all the more valuable because they may provide that step in a new direction that is needed to address plastic refuse. Drawing on Kuhn, the plastic recycling initiatives may be just another step in the accumulation of facts, or they could be the straw that breaks the camels back and people become aware of the plastic floating around them as a problem.

The plastic issue will continue to be hinged on private/public dichotomies, which Roberto Da Matta's arguments have helped me to establish. Garrett Hardin and Elinore Ostrum provided the necessary elements to detail what the private and public space mean to Burkinabé. Understanding the relationship between, and the orientation to, the private and public space is extremely important in the Burkinabé context. Finally I have relied heavily on Igor Kopytoff to show that currently the issue in Burkina is that plastic has no value and this has led to negative consequences. The way

that you give the plastic bag positive value is by introducing usefulness after the end of its current ‘social life’, or after its ‘death’, such that instead of being discarded in the street then it can be saved, collect and remodeled, woven into a new commodity or melted into bricks for example. The three initiatives I have presented do exactly this. Giving the plastic bag a new use will give it value beyond its current end stage and this will have positive outcomes in providing a source of livelihood and reduced impact on the environment.



“Is this a tasty morsel? Everything else is so boring...”

5.0 References

- Appadurai, Arjun. (1986) "Introduction: Commodities and the Politics of Value" in *The Social Life of Things: Commodities in Cultural Perspective*. New York: Cambridge University Press
- Bere, Rose. (2011) Personal interview, March 15.
- DaMatta, Roberto. (1991) "Two Basic Social Domains: The House and the Street," in *Carnivals, Rogues and Heroes: An Interpretation of the Brazilian Dilemma*. Trans. by John Drury. Notre Dame: University of Notre Dame Press, pp 64-65.
- Douglas, M. (1966) *Purity and Danger*, London: Routledge
- Foucault, Michel. *Power/Knowledge. Selected Interviews & Other Writings 1972-1977*. The New York. Pantheon Books..
- Hardin, Garrett. (1968) "The Tragedy of the Commons", *Science* 162: 1243-1248.
- Iboudo, Haoua. (2011a) E-mail interview, March 14th.
- Iboudo, Haoua. (2011b) E-mail interview, April 10th.
- Kopytoff, Igor (1986) *The Cultural Biography of Things: Commoditization as a Process*. in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai. Pp. 64–91 Cambridge: Cambridge University Press.
- Kuhn, Thomas S. (1996) *The Structure of Scientific Revolutions. 3rd ed.* Chicago: University of Chicago Press.
- Lamizana, Christiane. (2011) Personal interview, February 26.
- Ostrom, Elinor, Joanna Burger, Christopher B. Field, Richard B. Norgaard, and David Policansky (1999) "Revisiting the Commons: Local Lessons, Global Challenges". *Science* 284: 278-282.
- UNDP. (2010) *Human Development Report 2010 —20th Anniversary Edition: The Real Wealth of Nations: Pathways to Human Development*. New York: Palgrave Macmillan. Retrieved, Jul 29th: <http://hdrstats.undp.org/en/countries/profiles/BFA.html>
- Video:
- itciloTV. (uploaded 22nd Mar, 2010) *Success Story in Burkina Faso – Plastic Recycling Centre*. *Video retrieved*: 18th Jan, 2011. http://www.youtube.com/watch?v=C3bYNZvrhL4&feature=youtube_gdata
- Banzet, Corentin. (uploaded 30th Mar, 2010) *Plastic Bag Recycling (Tiebele)*. *Video retrieved*: 10th May, 2011. <http://vimeo.com/10565851>