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SCAVENGER STUDY

LUANDA, ANGOLA



CHILD SCAVENGERS AT LUANDA'S MUNICIPAL DUMP SITE, GAMEK, AUGUST 2005

Luanda - July – August 2005

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Summary: In 1997, Development Workshop (DW), an Angolan based NGO, conducted a study on scavenging, a form of recycling waste. This study illustrated that scavenging was a strong income-generating activity for many of Luanda's residents. In a follow-up to the 1997 research, DW's 2005 Scavenger Study found that this informal economy remains active in post-war Luanda. While scavenging for food is still done in Luanda's urban center, most scavenging for reusable waste materials has shifted to the city's peri-urban dumpsite, Golfe II. – Gamek. However, scavenging for glass at this site has slightly declined since 1997 because of the emergence of partnerships between multinational Coca Cola and domestic beer makers with Vidrul, Angola's only glass manufacturer. Subsequently, scavengers in Luanda's periphery municipal dumpsite have started to collect other re-usable waste materials, particularly the aluminum container of the soft drink BLUE. The omnipresence of waste piles in Luanda's periphery implies that the city's waste management, Elisal's efforts are ineffective. It also suggests that waste related diseases continue to plague Luanda's residents. Recycling as a sustainable urban waste management strategy would be most effective if it considered contributions from the following parties: urban residents, scavengers, local-based NGOs, private, and public sectors and local governments.

INTRODUCTION

Throughout Angola's twenty-seven year civil war, which ended in 2002, most battles were fought in the countryside. Hence, Angolans fled from rural areas and smaller cities to Luanda, the capital. "The government had managed to maintain a ring of security around the capital, allowing administrative and economical activities to continue in spite of the war."¹

While

this mass migration had adverse effects on the institutional capacity of public service sectors in Luanda, it also created a public health and environmental crisis for its residents.

"...Environmental problems become particularly serious where there is rapid expansion in the urban population . . . with little or no consideration for the environmental implication nor for the political and institutional framework that is needed to ensure that such environmental problems are addressed."²

The United Nations Development Program's (UNDP) Economic Report on Angola in 2002-2004 states that Luanda is "... a city built for about half a million inhabitants, but now is home to four million people."³ According to the United Nations 2001 Population Division of World Urbanization report, Luanda experienced a growth rate of 5.6 % between 1975 and 2000. Most of the population growth occurred in the musseques, urban slums that are typically located on Luanda's periphery. The spontaneous nature of musseque settlement often produced neighborhoods with narrow streets, challenging the capacity and ability of urban waste collection agencies to deliver services for those residents.

¹www.washingtonpost.com/wp-adv/specialsales/spotlight/angola/articles.html.

² Hardoy, Mitlin & Satterwaite. 2001. *Environmental Problems in an Urbanizing World*. Pg. 4

³ *Economic Report on Angola in 2002-2004: Defusing the Remnants of War*.
http://mirror.undp.org/angola/linkRtf/ang_ecorep.2005.pdf.

This urban influx resulted in the spread of unauthorized refuse dumps found throughout the periphery of the city. These dumps are breeding grounds for infectious diseases.

“...mosquitoes can be vectors for other serious diseases. Diseases spread by Aedes mosquitoes include dengue, dengue hemorrhagic fever, yellow fever are serious health problems in many cities... good garbage collection can greatly reduce the risk of diseases spread by (the) Aedes mosquito.” (Satterthwaite, 7)

While similarly mitigating the dangers of disease, a citywide recycling initiative also has the capacity to reduce waste deposits, positively impacting the health of individuals as well as the environment. However, in order for recycling to have a substantial effect, actors such as the city, state and local government, ELISAL (Angola’s urban waste management), private industries, local non-governmental organizations (NGO), urban residents, and scavengers all must be stakeholders to ensure inclusive policies and appropriate design that are both cost-effective and productive.

The 1997 DW Scavenger Study observed actors involved in the informal scavenging economy within Luanda’s urban center and in the following peri-urban areas of the city: Mulenvos, Soares de Costas and Golfe II. (GAMEK). Development Workshop chose these periphery locations because Elisal deposited the city’s solid waste at those sites, making them effective gauges by which to accurately measure the level of scavenging on Luanda’s periphery. The 1997 DW Scavenger Study states that whole bottles constituted 10.2% of the waste stream at those sites. (DW 1997 Study, 8) Therefore, glass was the most popular waste item collected by scavengers, who would sell their glass to a middleman/woman on site or directly to VIDRUL. The study also looked at scavenging in Luanda’s urban center and found that scavengers were not only finding food but also generating income by collecting reusable waste, particularly plastic bottles.



Soares de Costas, de-activated municipal dumpsite, Luanda August 2005

The 2005 DW Scavenger Study was conducted in August of 2005 and set out to examine whether scavenging still occurs in urban Luanda and on its periphery. While illustrating that scavenging activities have shifted to the periphery of the city, this report will also analyze the positions of ELISAL, urban waste management, VIDRUL, as well as multinational and domestic beverage manufacturers in terms of sustainable waste management as it relates to recycling. The trajectory of recycling has been altered since Development Workshops' 1997 Scavenger Study. The death of UNITA's rebel leader in 2002 effectively ended Angola's civil war. This has resulted in Luanda's economy to be able to receive commerce and global flows, in this process many partnerships within recycling have been formed within the informal and formal sector. This 2005 diagnostic study will also detail the process of recycling in the informal sector and formal sector.

METHODOLOGY

The DW 2005 Scavenger Study followed the 1997 DW Scavenger Study's framework in terms of accumulating data. Data derived from the periphery sites of Mulenvos, Soares de Costas, and Golfe II. (Gamek) was gathered during two afternoon field visits (weekday only). Data collected from the urban center was accumulated during morning and afternoons field site visits over a five-day period (weekday only). Elisal told DW that their contracted waste agencies pick up waste on the three following routes; Isle; Cidade Baixa; Cidade Alta, hence those spaces were chosen by DW to observe the scavenging activity. DW's 1997 Scavenger Study Questionnaire⁴ was used for all interviews conducted with scavengers at the urban and peri-urban sites. The Development Workshop Policy & Monitoring staff created two more questionnaires in August 2005 for interviews conducted with employees and senior staff of Elisal, Vidrul, Aguas Bom Jesus and other national and multinational companies.

SITE I: GOLFE/GAMEK, 1997 & 2005

DW concluded in its 1997 study that of the three areas analyzed, Golfe II "...was the busiest location with the most diversity of items collected..."(DW 1997 Study, 5) It is important to note that all of the items scavenged at this site were resold, and no scavenging was done for food. The age breakdown of the scavengers observed during the 1997 study was as follows: male and female children, 0% to 3%; female, 38% to 41%; the remainder were assumed to be males. Of the 87 people observed, only 52 were interviewed, 59 %, of them scavenged full time.

⁴ See Appendix for Questionnaires information.

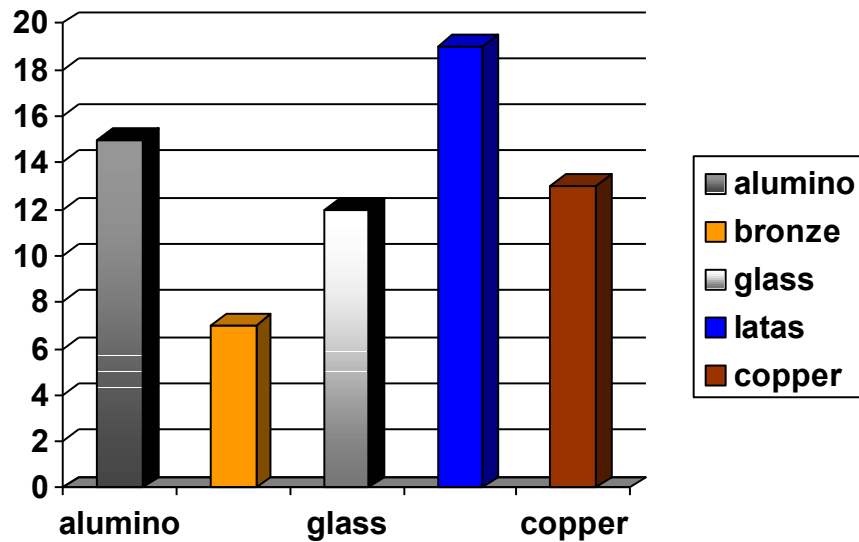


Scavengers at Municipal Dumpsite Golfe II/Gamek, Luanda August 2005

In 2005, Gamek was not only bustling, it was also the only active site of the three studied for the DW 1997 Scavenger Study. The site was visited on more than two occasions; however, due to the tense political climate caused by upcoming elections—in which waste is viewed as a highly sensitive social and political subject—official interviews were only allowed with ELISAL authorization. Over the course of two afternoons DW observed an estimated 250 people scavenging. Of these, 31 were willing to be interviewed; twenty-five males and six females. Most of those interviewed scavenged full time (at least 20 hours a week and at least six days a week). The reusable waste materials scavenged for ranged from glass bottles, dense aluminum, and light aluminum cans for soft drinks to copper, bronze, iron, and plastic. Most of the women observed but not interviewed collected only bottled glass, while men and adolescents scavenged for iron, copper, bronze, heavy and light aluminum, and

occasionally plastic. Children mostly collected light aluminum, particularly containers of the popular beverage BLUE. In general, people tended to collect what their weight could handle; the men interviewed said that women are stronger and therefore can handle the weight of glass. The aluminum used to make BLUE cans is light, enabling a child on an abundant waste day to fill a minimum of three large bags.

All of the waste with the exception of glass is weighed on a scale and sold per kilo on site to a middleman/woman. Angomali, a commerce and industrial business comprised of Angolan, Malian and Senegalese partnership has a strong presence at this dumpsite; the DW research team was informed that they are the largest consumers of re-usable waste collected from the scavengers at Golf II. In terms of price, one kilogram (kg) of copper sold for 40 Kwanza (Angolan currency: KZ); one kg. of iron sold for one KZ; one plastic bottle sold for three KZ; one kg. of bronze sold for 25 KZ; one kg. of lattes (aluminum can) sold for 15 KZ; one Kg. of heavy aluminum sold for 25 KZ. Vidrul, the glass manufacturer, paid one KZ per kilogram of glass. A weekly income from scavenging is contingent on the following factors: type of material collected, how volume of material collected and the availability of a specific material on a given day.



The following graph illustrates the percentile of materials scavenged at Golf II. / Gamek, August 2005 .

Scavengers were divided into the following categories regarding age: children (age 0-12), adolescents (12-20), adults (20-40) and seniors (40 and above). Of those interviewed, six were children; the youngest was recorded as being eight years old. Seven interviewees were adolescents, sixteen were adults, and one was a senior. Of the 250 people observed at this site, an estimated 30% would be classified as children; most of these were young boys. While only six of these children felt comfortable speaking with the Development Workshop staff about scavenging, a higher percentage of those between the ages of 12-40 were more willing to discuss their activities. An estimated 35%-40 % of the 250 observed were female; however, they were for the most part unwilling to talk with the Development Workshop staff about their scavenging activities; only a few women allowed themselves to be interviewed. One reason for this may have been the timing of the DW site visits. All visits occurred during the afternoon. Most women in contemporary Angolan society are still responsible for household chores and therefore, as observed by one scavenger, females of adolescent age and

above typically start their scavenging activities as early as six in the morning and finish by mid-day.

URBAN CENTER OF LUANDA, 2005

DW's 1997 Scavenger Study observed 174 people and interviewed 128 urban scavengers. The study found that individuals resold 88% of scavenged items (DW Scavenger Study 1997, 5) and that the most common materials scavenged for were plastic bottles. The 2005 study, on the other hand, found it challenging to locate similar scavenging activities. In observations made during the morning and late afternoon on 5 different days, most individuals, with the exception of a few, scavenged only for food in city containers. In all, thirty individuals were observed and ten were interviewed. Of those ten, six were classified as adolescents, three as adults, and one as a child. It is worthwhile to re-mention that these observations were conducted during weekdays, never in the evening, which might in part account for the small number of scavenging individuals reported in Luanda's urban center.

ELISAL, ANGOLA'S URBAN WASTE MANAGEMENT

Elisal, Angola public sector waste agency is responsible for urban waste management and contracts collection agencies to service Luanda's urban and peri-urban areas. An interview with Elisal was conducted to determine their position on Luanda's waste problem and to assess where they stand in terms of recycling as an alternative waste removal solution.

Elisal claims that they are on the right track regarding waste management as it relates to Luanda's urban center. Garbage is picked up three times a day from all city containers. The times of collection are the following: once between 8 AM and 4 PM, once between 4 PM and midnight and again between midnight and 8 AM. The city waste

containers provided by Elisal are labeled as 4, 6 or 10 according to the amount of waste the city expects the neighborhood housing any particular container to produce.

Elisal also claims that there are several factors challenging their waste collection services in the urban center: Luanda's severe and constant traffic congestion, parking that interferes with vehicles attempting to access waste containers, the lack of public lighting that prevents the late shift from seeing everything that should be collected, and lack of security, which makes the collection work dangerous.⁵

Elisal is currently revitalizing two landfill sites so that Luanda will have alternatives to GAMEK. The organization claims to be aware of the trash collection problems in the periphery of the city and asserts that it is currently upgrading its services in those areas. The organization also states that door-to-door collection is a possible solution to the excess trash found in the periphery of the city, as their collection vehicles do not have easy access to trash locations within the musseques. Elisal intends to further address this challenge by relocating city containers with deeper storage capacity to principle roads near mussequé neighborhoods. Elisal could not elaborate on this plan, as the initiative is contingent on financing from the government.

ELISAL currently does not have any recycling programs or proposals to collaborate on such efforts with private or public industries. While they feel that recycling promotion would be a positive step towards sustainable waste management, they believe that it will be futile without the state investing in public education programs. ELISAL argues that the public would be more apt to manage household and consumer waste as part of a large-scale "sensibilacao" project; essentially, this refers to awareness building that motivates urban and peri-urban residents to modify behavior from that which is environmentally harmful to that which is ecologically sustainable.

⁵DW 2005 Scavenger Study Interview Notes with ELISAL Senior Level Staff.

THE MULTINATIONAL & NATIONAL BEVERAGE INDUSTRIES

In examining recycling initiatives, it was important to analyze the positions of the multinational and national beverage companies that are located within and service Luanda's urban and peri-urban population. Aguas Bom Jesus mineral water, Coca Cola, and Cuca (domestic beer) were observed as being the most consumed beverages in Luanda. DW therefore visited these companies--as well as Vidrul, a glass manufacturer--to assess their stances on recycling and what community efforts were being made.

AGUAS BOM JESUS & VIDRUL

Aguas Bom Jesus sells mineral water throughout Luanda and Angola. The popular national company's plastic bottles are part of Luanda's waste stream at the urban and periphery dumpsites, and thus it was important for this study to ascertain its stance on recycling. The company's factory is located in the Bengo province, which is approximately a two hour drive from Luanda. This small enterprise not only bottles its mineral water for distribution, it also manufactures the plastic bottles in which its treated water is sold. The company estimated that it produces 350,000 small bottles and 200,000 large bottles of water per week for the city of Luanda. The demand is so high because the company's product is cheaper than imported treated drinking water. In fact, Aguas Bom Jesus stated that they will "...increase output from 41,000 to 82,000 bottles per day in 2005,"⁶ implying that the business will see a substantial profit increase. However, when Development Workshop asked the company's senior staff whether the business recycles their excess plastic from bottling production or their plastic bottles found in Luanda's waste stream, the answer was no; the spokesman stated that the company does not intend to explore this option because

⁶ U.S. Angola Chamber of Commerce. Posted April 5, 2005. <http://www.us-angola.org/chambernews.htm>

of the high costs involved in recycling. When asked of its approach towards reuse of waste of their products, the spokesman stated that the company burns excess plastic products, implying that Aguas Bom Jesus do not deploy sustainable waste practices, because their waste methods becomes directly becomes a source of air pollution in Angola.

An interview was also conducted with a representative from Vidrul, a domestically owned glass-manufacturing company that is also the only glass-recycling firm in Angola, located in Luanda's Cacuaco district. The French group Castel holds 60% of the company's shares while the Angolan group Coubel holds 40%. This company is in a unique position because it has been able to solidify several private partnerships with multinational and national industries, particularly in Luanda. These partnerships are with Coca Cola and domestic beer bottling companies Cuca, Ecka, Nocal and Sagres. Vidrul did not indicate how long they have been engaged in recycling.

During the war, this glass manufacturer received, on a daily basis, a truck filled with 12 tons of glass from Luanda's municipal dumpsites; Vidrul's key suppliers during this time were scavengers. However, in 2005, the amount of glass purchased from scavengers has declined. Nkongo Lucas, Vidrul's commercial director, told DW that only 10% of their recycled glass currently comes from scavengers while 90% is sent directly to their plant from Coca Cola, Cuca, Eka, Nocal and Sagres.⁷ Furthermore, Senor Lucas informed DW that Vidrul intends to expand the scale of its recycling efforts to aluminum and plastic. Both reusable waste materials have provided an economy for scavengers, hence, any further exclusionary partnerships with aluminum and plastic beverage industries could be detrimental to the livelihood of scavengers. To demonstrate this expansion, Development Workshop was given a tour of Vidrul's almost-finished plants for aluminum and plastic. As they are autonomously financed, Vidrul envisions that these new plants will be fully functioning by the end of 2006. The Angola Press reported on October 5th of this year that in

⁷ See Vidrul Interview Notes with Nkongo Lucas in Appendix III. August 2005. Conducted by Development Workshop Policy & Monitoring Unit: Filomena S. Cornelio & Jose Tiago Catito.

2004 Vidrul invested 15 million dollars to upgrade their equipment and the capacity of their production.⁸ Interestingly, Vidrul has been approached in the past by ELISAL to work in partnership; however, the project did not succeed. Vidrul felt that a city - wide recycling project was not feasible because of the city's waste management lack of organization, as well as machinery in terms of processing the reusable waste produced on a daily basis.

CONCLUSION

Elisal's inefficiency in waste management in Luanda's periphery results in the omnipresence of open waste dumps. This study shows that these piles of waste continues to take on different forms in the informal sector as it becomes a vehicle in which the urban poor are able to sustain themselves. Moreover, scavenging remains an economic activity in the informal sector because of Luanda's inefficiency in propagating incomes by generating jobs for its urban residents. This study has demonstrated that in post-war Luanda, recycling continues to be an income-generating activity in the informal sector while emerging as a major factor among some of Angola's largest beverage industries.

As it relates to the multinational and domestic companies, this study illustrates that formal recycling partnerships are being solidified specifically between Vidrul and beverage industries. Although these industries that partnered with Vidrul are elucidating that their business practices are environmentally sustainable through their practice of re-use of their glass bottles, the exclusive nature of their partnerships are economically detrimental to the scavenger communities. The demand of reusable glass bottles on the scavenger communities has declined because now those industries send their glass bottles directly to Vidrul's factory. The study indicates that the demand for aluminum cans has risen since DW

⁸ Vidrul Glass Company Invests 15 Million US Dollars in Modernization. October 2005. Angola Press www.angolapress-angop.ao/noticia-e.asp?ID=380512.

1997 report; therefore, scavengers have been sustaining themselves by mainly supplying that material to Ango - Mali. Hence, it is clear that Vidrul's intent to expand their recycling capacity to aluminum and plastic has severe economic implications for scavengers, because of Vidruls' propensity to solidify exclusionary relationships within those industries.

At the same time, the lessons and expertise of those within the informal and formal sectors of recycling could be productive if applied to a city - wide recycling initiative that could engender an environmentally sustainable urban landscape for its residents. The design of this initiative should be conceptualized by multiple stakeholders in order for it to be pragmatic and effective. In the context of Luanda, the actors should be domestic & national beverage industries (and other appropriate industries whose products are part of the waste stream), various municipal administrators, municipal commune representatives, Elisal, local NGOs, Vidrul, Ango-Mali and Scavengers. This initiative would also be a benefit to city waste collection agencies that are unable to routinely collect garbage in the city's periphery. The sporadic nature of musseque neighborhoods makes it difficult for the vehicles to access the waste produced in such settlements. Scavengers with expertise and local technology have the capacity to retrieve waste materials in spaces that waste collection agencies vehicles find challenging. Hence, they should be integrated into a waste collection -- recycling scheme because of their capacity.

In attempting to foster these alternative methods and opportunities, the state could act as the architect who deploys diverse and equitable "development policies, [that are]... properly conceived and implemented... [in order to] ensure greater demand for informal sector output and thus open new opportunities for participation." (Sethuraman, 51)

However, it is clear that in order to deploy an effective city-wide scale strategy that a multiple of stakeholders must participate in the process. Education to urban residents is critical to the success of city wide recycling project Recycling partnerships have been forged between foreign and domestic industries; future projects should not exclude scavengers.

NGOs and local government could assist in the scavenger having a more elaborated role within waste management, providing a waste retrieval service in musseque settlements. Most important of all the greater community participation, the mountain piles of waste declines and public health increases. Thus, a recycling initiative is a waste option with optimal consequence in post-war Luanda.

RECOMMENDATIONS

The Role of NGOs As it relates to Scavengers & City Government

Local based NGOs are important actors that are an asset to developing countries national and municipal government as they often are better equipped in dealing with the needs of the informal and the urban poor. Local NGOs are key in elaborating a city - wide scale recycling initiative because of their technology, technicians, mapping capacity, data collecting and overall expertise in elaborating alternative participatory processes. In addition, NGOs with experiences in assisting informal sectors forming micro-enterprises should be considered for facilitating informal workers to establish scavenger societies or cooperatives. Organizing Scavengers into legal entities would empower them from being exploited by the middleman who they supply reusable waste for very low marginal rates of profits. In addition, as a legal entity they could receive funding that could materialize into safe harbors where they could elaborate their collection process, evade violence and haphazard environments. Moreover, as a cooperative they can be legally integrated into a city-wide scale recycling initiative among other formal institutions and industries.

The Multi-National & Domestic Industries and Further Considerations for Exploration

The focus on multinational industries with operations and production in Luanda was to examine whether they have "... extended the reach of stakeholders addressed in the codes of conduct to include community and the environment." (Mendes & Clarke, 2) Most multinationals with business overseas advertise that even though they are global their business practices show that they think local. Coca Cola prides itself in engaging in world wide economic development within the community in which it operates. This is materialized by their collaboration with local glass manufacturer Vidrul who produces quality bottling for their beverage. Their development priorities must reflect a larger scope of issues that go

beyond “economic development” and encompass other concerns critical for sustainable environmental management within the communities that they not only operate, but also profit from. This could be realized through Coca Cola elaborating their development agenda if even on a small scale in an inclusive city-wide recycling scheme that would benefit the informal sector and urban residents of Luanda. Even though the main objective of a Coca Cola is to satisfy their shareholders and board members, that being a stakeholder is another mechanism that could bolster their corporate image through corporate social responsibility action.

The soft drink BLUE is a large part of the Luanda’s waste stream and generates income for quite a few scavengers observed and interviewed. The study did not explore their position on recycling and if they had any formal partnerships with other industries. Blue which is produced by the Monach & Refriango groups has a Luanda based plant is located in the city’s district Viana. The Portugal Digital stated that their factory in Viana has production capacity of 360 million liters of beverage of BLUE per year.⁹ American Cola beverage is also manufactured by Monach & Refriango. Its inability to produce profits made it a large part of Luanda’s waste stream observed in the periphery site of Golfe.. According to Earth 911, manufacturing of a new aluminum can from a used can requires 95 % less energy to create.¹⁰ Since this is true, a dialogue the Monach & Refriango group needs to be initiated as it could be part of a city wide recycling process because of its economical and social benefits that it presents for them and fellow residents in Luanda.

Education & Waste Bins

A city wide recycling scheme can not be realized without the involvement of urban residents. The State needs to invest a substantial amount of money, energy and effort in an educational

⁹ *Refriango e Monach Investem US \$35 Milhoes em Novo Refrigerante*. Portugal Digital. November 129, 2004. www.portugaldigital.com.br/sis/noticia.kmf?noticia

¹⁰ Earth 911. www.earth911.org/masters.asp?s=lib&a=aluminum/facts.asp

program that encourages their residents to adopt responsible attitudes towards how they deposit waste. The Strategic Options for Managing the Urban Environment Report states that:

“...offering Ecology as part of the formal school curriculum; Targeting environmental education for community leaders, politicians, and city officials; regular, publicized evaluations and awards for environmental improvement and urban environmental quality; media campaigns that (bring to light) particular issues of community concerns; regular information on environmental quality...¹¹.”

The aforementioned quote is important because it signals out all the diverse casts of actors who need to be engaging in this process. It also is an educational paradigm that is framing the city as a cohesive force. In addition, its emphasis of publicized evaluations and award giving for environmental improvement of a particular neighborhood is important as it makes successful spaces visible to all the stakeholders, reinforcing the capacity of this process

In conceptualizing and investing in educational programming, the age composition of Luanda must be considered as statistics show that in the city 43% of their population is children between the ages of 0-14 and that 53% are between the ages of 15-64.¹² These numbers implies that the eco-value building should be youth-friendly as they outnumber adults therefore should be held more accountable for environmental pollution. However it must still be extended to heads of households that, “Mixed together, discards are garbage... Source separated, materials become resources” (Platt, 32).

Being taught about the importance of recycling is key in initiating a sustainable waste management in Luanda; however, residents must have access to various residential waste bins in order to make the separation process a possibility. Hence, waste bins distributions needs to considered as an integral part of any effective recycling scheme.

¹¹Carl Bartone, Janis Bernstein, Josef Leitmann, Jochen Eighen. *Strategic Options for Managing the Urban Environment. 18. Toward Environmental Strategies for Cities .Policy Considerations for Urban Environmental Management in Developing Countries*. 1994. Washington DC. World Bank.

¹² CIA World Fact Book. Angola 2005. www.cia.gov/cia/publications/factbook/geos/ao.html

Appendix 1.**Development Workshop's Scavenging Questionnaire**

Used for 2005 DW Scavenging Study in Luanda's Urban and Peri-Urban Areas

1. Quem? Crianca<12 adolescente 12-20 adulto 20-40 senior >40
Who child adolescent adult senior
2. Que tipo de material recolheu?
What type of material is collected?
3. Quantos recolheu?
How much is collected?
4. Recolhe comida?
Collect food?
5. Do onde vem? Qual e a distancia?
Where do you come from and how far is the distance?
6. Quanto tempo gasta nesta actividade? Por dia? Por semana?
How much time is used for this activity? Per Day Per Week
7. Porque? O que vai fazer com o material?
Why? What will you do with the material?
8. Se a pessoa vai vender o material, onde vai vender? Qual e a distancia?
If a person sells the material, where do they go to sell it? How far is the distance?
9. Qual e o preco? Por kilo? Por saco?
What is the price? Per kilogram? Per bag?
10. Quantos kilos/sacos/garrafas vende por dia/por semana?
How many kilos/bags/glass bottles are sold per day/per week?

Questoes 5 e 8 para melhor intender e a distancia viajado por dia/semana
Questions 5 – 8 is to understand better the distance traveled per day/week.

All results are detailed were detailed on Development Workshop's Policy & Monitoring Unit's SPSS.

Appendix II.**Development Workshop's 2005 Scavenging Study**
Questionnaire for ELISAL

1. What is the current solid waste removal system in place in Luanda's urban & periphery areas?
 - Participation of local stakeholders/community
 - Evaluation criteria, successes, failures

2. What are the systems used or tested in the past?
 - Participation of local stakeholders/community
 - Evaluation criteria, successes, failures

3. Has there existed collaboration between NGO, administrative municipalities, private corporations, and participating communes with waste removal?

4. Which of the involved parties initiated such a program?

5. What are the recycling initiatives tested?

6. Has there ever existed a participatory process between NGO, local community, and community based organizations, private industry Viral, and private corporations?

7. What would be options for future recycling initiatives?

8. Who would be possible participants/key stakeholders

Appendix III.

ELISAL INTERVIEW NOTES

Replies all follow the Appendix II Questionnaire:

1. ELISAL provides contentors (waste containers) throughout the city and periphery of Luanda. The contentors are usually placed in groups of 4, 6, and 10. The groupings are contingent on the amount of waste that the particular neighborhood is expected to produce. ELISAL contracts waste collection agencies to deliver services in the urban and periphery of the city. There are three different shifts and eight rotations located on the isle, in two locations in the bottom part of the city and two locations in the top part of the city. There are three periods when garbage is collected. The first shift: 8 am – 4pm, second shift: 4 pm – 12 am, third shift: 12 am – 8 am.

2. The response to the first question is the system used in the past. The stakeholders were the state agency, ELISAL and private contractors. Since 1997, Luanda's urban center has become much cleaner. However, ELISAL waste management has the following challenges: traffic, parking of cars, lack of public city street lights and security. In addition, the lack of State financing in sanitation affects ELISAL from deploying more effective waste management strategies. Most of the State investment has gone towards public health projects. The State needs to invest in Sanitation because of its link to waste related diseases that are a direct link to public health issues. The lack of values of the urban residents also challenges ELISAL waste management. They constantly pollute in inappropriate places.

- 3.4. Currently, ELISAL is working with NGO Development Workshop, municipal administration of Sambizanga and its commune on a participatory process towards waste-removal strategies.

5. Currently, ELISAL does not have any recycling initiatives.

6. This question has been answered by number 3 & 4.

7. In order to have a successful recycling initiative; it must be spearheaded by a state-invested educational program that orients urban residents towards shifting their values.

8. He did not reply to this last question.

Appendix III. August 2005 Vidrul Municipal, Luanda

Vidrul Interview Question & Response

1. What is Vidrul's background, who are they today and what does it produce in the Angolan market?

Answer: Societe Mecanique Verriere, French company started the plant in 1961 in Angola. It is unique as it is the only glass manufacturer company in Angola. Today they produce all types of glass bottles and beverage bottles through a recycling system.

2. Does Vidrul have any partnerships with other multinational or national beverage companies? If so, what are the conditions of those partnerships?

Answer: Vidrul currently has partnerships with Coca Cola, Eka, Nocal, Sagres and Cuca. Vidrul creates the bottles for each of those multinational and national beverage industries. BGI Group Association with Vidrul changed the recycling process. The brewery companies would send their bottles directly to Vidrul. This constitutes for 90% of the glass which they recycle, produce and sell directly back to those companies.

3. What is Vidrul's past or current (if applicable) relationship with the informal sector of Scavengers?

Answer: In the past Vidrul would receive broken glass or glass bottles from scavengers. At that time, they would buy their glass from 'Senhoras' who would collect reusable glass from open dump sites and urban waste containers. Daily, that equated to 12 tons of glass. They would and still do pay 1 KZ per kilogram. Today, the scavengers supply much less, 10 % of their glass, because of the new partnerships that have emerged with national and multinational beverage industries.

4. What are Vidrul's future projects as it relates to recycling in Angola?

Answer: Vidrul intends to recycle and produce plastic bottles and lattes (aluminum cans). Vidrul is nearly finished in purchasing machinery and factories on site to do so.

5. Does Vidrul feel that a city-wide recycling initiative is possible in Luanda?

Answer: The waste disposal system does not allow for such a project to be elaborated. This is true because residents in the urban and periphery do not have waste containers to separate their waste. The waste problem is strongly attributed to the values of Luanda's residents. They have no conscience about where they dispose their waste. (i.e. Drivers or/and their passenger(s) have often been seen discarding a soda can outside their car window. Therefore, the State needs to invest money in public education that changes attitudes towards irresponsible waste disposals.

Appendix IV August 2005: Bengo Province, Angola

Bom Jesus Interview Questions & Response

- 1. Who is BOM JESUS; what is their background; what do they produce in Luanda's market?**

Answer: Bom Jesus is Angolan's only domestic bottled water company. They have been supplying water to Angola since 2001.

- 2. Does Aguas Bom Jesus have any types of partnerships with other multinational or national beverage companies? If so what are the conditions?**

Answer: Aguas Bom Jesus is a very small operation. They currently do not have any partnerships with multinationals or national beverage companies.

- 3. Does Aguas Bom Jesus have or had any relationships with Scavengers in the informal sector?**

Answer: None

- 4. What is Aguas Bom Jesus' position on recycling?**

Although they have the technological capacity to produce (and do so) their plastic bottles for their treated drinking water, they do not recycle. This is the case, because (recycling requires technology that they can not afford. Therefore, they choose to burn excess plastic left over from manufacturing.

- 5. How much plastic does their treated bottled water produce that is sold in Luanda's urban and peri-urban markets?**

Answer: The quantity of 350,000 small bottled water of Bom Jesus Water floods Luanda's urban and peri-urban by per week. The bottled water contains 33 centiliter of water. In addition, 200,000 large bottled water floods Luanda's urban and peri-urban per week. This bottled water contains 1.51 liters of water.

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