Environmental Conscience and Comportment of Youth in Dakar

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Environmental Conscience and Comportment of Youth in Dakar

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Abstract
The natural environment is in a state of crisis in Dakar, in Senegal, in Africa and throughout the world. Humans are the primary contributors to environmental degradation, as their activities place stress on natural ecosystems, and this stress is often most acute in the urban setting. Dakar is one major West African city where inhabitants are particularly neglectful and disrespectful of their communal environment, illustrated by the oppressive presence of mismanaged waste that pollutes the public streets. Based on the hypothesis that the general population was either unaware or misinformed of the actual state of the environment, I aimed to study the sources of environmental education influential in the environmental conscience and comportment of Dakar’s youth. Instead of finding a concrete flaw in the educational system, I found that the characteristics of a progressive environmental conscience are often suppressed by concepts historically embedded in traditional Senegalese mentality. In order to steer Dakar toward a more ecologically conscious future, youth need to respectfully challenge the traditions prescribed by their sociocultural surroundings by claiming ownership of their city and encouraging their elders to adopt environmentally-sensitive practices.

ISP Topic Code: 201 General Education

I. INTRODUCTION
Background

According to Nyima Kantorek’s *Wolof Dictionary and Phrasebook*, the Wolof word *gerrab* carries a double signification: it means both tree and medicine. Wolof is an African tribal language spoken by members of the Wolof ethnic group who today inhabit the Gambia, Senegal and Mauritania, and who traditionally understood the powerful link between the natural world and human wellbeing. Today, Wolof-speakers still use *gerrab* when referring to either tree or medicine, but many have lost a true appreciation for the reason behind its dual-meaning. In fact, a number of cultures have abandoned ancient customs of protection and value of nature, which explains in part why our world now faces the worst ecological crisis in its history. Human lifestyles and endeavors have placed stress on every one of the planet’s ecosystems—including marine, coastal, forest, island, dryland, mountain, and polar systems—and this has resulted in an increasingly warmer climate, overexploitation of natural resources, scarcity of fresh water, high concentrations of greenhouse gas emissions, habitat loss for animals and humans, production of pollution and waste, and weather-related natural disasters, among numerous other undesirable environmental anomalies (Hassan 2006). This environmental emergency is so critical and extensive that its consequences are relevant to every population and every region on the planet.

Many organizations and groups concerned by the state of the global environment have conducted studies in order to assess the changing conditions of Earth’s ecosystems, the causes of these changes and their consequences for human wellbeing. The *Millennium Ecosystem Assessment* is one such report, which between 2001 and 2005 involved the work of over a thousand experts worldwide, and which states that “over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history… [resulting] in a substantial and largely irreversible loss in the diversity of life on Earth” (Hassan 2005). All people inevitably contribute to environmental degradation to some degree, although certain regions are more equipped to confront the consequences than others. Africa could be the most vulnerable continent in terms of the impacts of the environmental crisis because environmental degradation compounds problems already posed by poverty, economic growth, rampant urbanization and unsustainable development (UNEP 2002). In Africa, environmental degradation challenges populations in rural settings who depend on thriving ecosystems for their survival and wellbeing, while for those in urban settings, degradation in the form of waste and pollution compromises public health and general quality of living (République 2006).
Senegal is one West African country struggling with poverty and public health issues alongside multiple environmental issues, including deforestation, flooding, coastal erosion, drought, degraded soil, and marine and atmospheric pollution (Ministère de l’Environnement 2004). The consequences of environmental degradation are most acutely felt in Senegal’s political and economic capital of Dakar, where urbanization places major strain on natural systems (Centre 2005). As of 2005, 25% of Senegal’s population and 90% of its industrial enterprises were concentrated in the region of Dakar (Centre 2005). Perhaps the city’s most visible environmental issue is pollution in the form of unmanaged garbage. “Urban development is accompanied by a significant production of garbage,” cites the Report on the State of the Environment in Senegal, which goes on to note that the country’s system for the “collection and treatment of this garbage is deficient and manifests itself in the presence of numerous uncontrolled garbage dumps, stagnant water…” (Centre 2005). Dakar’s garbage assaults the senses all at once, marring the city’s aesthetic potential, propagating foul odors, invading physical space, and posing a threat to public health. According to the Report, the prospects for fixing this problem are “limited due to the weakness of budgets allocated to the management of household waste, poverty and anarchic urbanization” (Centre 2005). Nevertheless, Dakar’s inhabitants are also major contributors to this issue and their proclivity toward littering indicates flagrant neglect of their natural habitat.

**Rationale and Methodologies**

Problems such as the one of garbage bring into question the level of environmental awareness and quality of environmental conscience of Dakar’s inhabitants. The careless practices of many Senegalese in regards to the environment—for instance, abuse in the form of littering—indicate that the general population is misinformed about the potentially huge impact of their small habitual actions. To better understand the environmentally-degrading practices of the general Dakar population, I aimed to study the environmental conscience and behavior of the city’s youth. Specifically, this research entailed examining what sources of environmental education are available to Dakar’s students. The primary educational source I studied was formal

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1 Le développement urbain s’accompagne d’une importante production de déchets. La collecte et le traitement de ces déchets sont défectueux et se traduisent par la présence de nombreuses décharges sauvages, de stagnation des eaux usées…

2 est limitée en raison de la faiblesse des budgets alloués à la gestion des ordures ménagères, la pauvreté des populations et l’urbanisation anarchique
education in the Senegalese school system. I also looked into the home and media, but only as secondary and tertiary educational sources. After investigating how students think and behave in relation to the natural world, I learned that several influential factors specific to traditional Senegalese culture are in conflict with the measures that must be taken to ameliorate environmental conditions in Dakar.

I chose to conduct this research in Senegal’s most populated city, Dakar, based on my personal belief that the world’s city-dwellers are the leading destructors of natural ecosystems, and it is crucial for these people to understand how their daily actions in local urban settings impact the ecological crisis on a global level. Furthermore, I wanted to focus on collège and lycée students because they represent Senegal’s future artists, engineers, architects, policy-makers, doctors, managers, and so on, and the education they are receiving now is influential in their evolution from young students to adult citizens.

In regards to my research methods, I spent the first few days of my research period examining environmental documents concerning the state of the environment in the world and Senegal. My research on environmental education involved studying the two natural science classes that Senegalese students mandatorily take—Science de la Vie et de la Terre (SVT) and Histoire/Géographie (Histo/Géo)—through written curriculum, student notes, professor interviews, and attending class. The bulk of my field research involved interaction with or observation of Dakar students from three different schools. I observed their practices with trash on school grounds; spoke with them informally; and led two discussions in small focus groups of 8 and 10 students. I also administered 115 questionnaires that inquired about students’ interest in the environment, their knowledge of current environmental problems, their sources of environmental information, their habits with garbage, and their thoughts on the future of the environment in general. My interviews with an environmentalist, a sociologist, the regional director of the Scouts and Guides of Senegal, and a Scout youth advisor provided the basis for my discussion on sociocultural and historical circumstances and positive initiatives for the future.

Limitations

Studying the “consciousness” of a particular individual or group was complicated and ambitious, especially considering the limits of my time, resources, and level of experience with
socio-psychological research. Nevertheless I aimed to study the environmental consciousness of Dakar’s youth as best I could—through finding out what environmental issues they were aware of, whether they were personally invested in these issues, and then whether or not their daily behaviors reflected their knowledge and attitudes. My research was primarily limited to the public sphere, which in this case was the school setting, either in the classroom or elsewhere on school grounds. Ideally, I would have liked to attend and observe SVT and Histo/Géo lessons that dealt specifically with current environmental issues, but I was unable to control which lessons teachers were presenting during my research period, thus I had to find other ways of studying the effectiveness of formal environmental education, for example by studying written curriculum, interviewing professors, and of course speaking with students.

When I began considering influential sources of education other than formal schooling, namely the home and the media, I encountered several limitations as well. The home posed a problem because I could not enter seamlessly into an “average” Dakar home and unobtrusively study what education goes on there—I had neither the time nor the connections. It was only after tallying my questionnaire responses to find that 100% of students claimed to receive environmental information through the media that I realized it was undoubtedly an important source as well, but this realization occurred a bit late in the research period, and I was therefore unable to research it thoroughly.

Ethical Considerations and Measures

My research was almost entirely reliant upon human interaction—discussing, questioning, and learning from Dakarois and in particular Dakarois students. I thus needed to build rapport with students as well as with their authority figures. My research in the schools involved work with minors and protocol required that I get permission from the chain of command, starting with the Proviseur, then the Censeur, next professors in the SVT or Histo/Géo department, and finally my primary research subjects, the students themselves. When speaking with students in a focus group or administering a questionnaire to a class, I introduced myself as an American student interested in their ideas and awareness on the environment. I received oral consent from the students I worked with, and either written or oral consent from all of my other human informants. When talking to students I always made a point to make sure they knew that I was not testing or judging them, but that they were helping me to understand a part of their culture.
When leading focus groups or talking informally with students, I took notes by hand because I did not want the presence of a recording device to deter them from feeling comfortable or being candid. During interviews I usually used both a recording device and hand-written notes to record information. SIT staff members helped me to edit my questionnaire and interview questions in French, and also to accurately translate specific quotes from French to English for this written report. Additionally, throughout the course of my research I tried to keep in mind that I come from a city and region of the world where people generally understand that their small actions have an impact on a habitat greater than their own. While certain environmental concepts are very standard in my hometown, I had to adjust my expectations for a country very different from mine where people have different educations, cultural values, and priorities.

II. RESEARCH FINDINGS AND ANALYSIS

Primary Educational Source: Formal Environmental Courses in Collège and Lycée

My first step toward understanding the character of the environmental conscience of Dakar’s youth was to examine the sources of education available to them. The responses to a questionnaire I administered to students revealed the media as the primary source of environmental information, natural science courses taken at school as the secondary source, and home life as the third source. However, my original research plan was to focus primarily on environmental education youth receive in the setting of formal school, while studying the media and the home in a secondary manner. Senegal’s primary and secondary school system is comprised of four years of collège (6ème, 5ème, 4ème, and 3ème) and three years of lycée (Seconde, Primaire, and Terminale). During these years, the two courses of SVT and Histo/Géo provide the basis of environmental education for students. The curriculums of these courses are complementary, designed to inform pupils of similar topics but in different manners. SVT covers basic concepts in biology, physiology, ecology, and geology, whereas Histo/Géo examines topography, climate, vegetation, wildlife, and ecosystems (Faye * 2009). For example, in SVT one might learn about the biosphere contained within a single drop of water, while in Histo/Géo one would learn about the phases of the water cycle and the importance of water as a natural resource. Both courses play a role in informing students about environmental issues facing their region and their planet.

* The name of this informant has been changed to protect their anonymity.
The Geography Curriculum

The Géographie curriculum beginning in 6ème aims to familiarize students with their immediate surroundings by introducing them to the topography, climate, flora, fauna, and human population characteristic to each region in Senegal. Over four years, this course progressively widens the scope of study from regions (6ème) to the country of Senegal (5ème) to West Africa and Europe (4ème) and finally to the earth as a whole (3ème). Géo in 3ème also introduces students to environmental threats such pollution and global warming, as well as “the over-exploitation of resources and its consequences” (Ministère de l’Education 2006). Entering lycée, course objectives of the Géo curriculum tend to matters of protecting the environment and conserving natural resources. For example, objectives of Seconde aim to help students “to understand the potential of various natural regions of the globe; to understand the codes and conventions in matters of protecting nature; to understand the natural causes of degradation of the environment; to understand principle protected zones and production of natural resources…to know how to evaluate the potentials and limits of an area” (Ministère de l’Education 2006). The program for Primaire continues in this vein with aims to impart students with knowledge on how “to protect one’s environment” and “participate in initiatives of awareness on the environment” (Ministère de l’Education 2006). While these course objectives present the natural world as a place rich with potential and resources for human use, they also acknowledge that these resources are finite, and urge the student to play a part in the protection of these resources. Furthermore, this knowledge is not meant to be confined to the classroom, but rather should be shared with other members of the community.

Notes from a SVT Lesson

The course of SVT is another setting for discussion of environmental problems and the role of humans in instigating or aggravating these problems. I had the opportunity to examine a

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3 la surexploitation des ressources et ses conséquences
4 connaitre les potentialités des diverses régions naturelles du globe; connaître les codes et conventions en matière de protection de la nature; connaître les causes naturelles de la dégradation des milieux; connaître les principales zones de réserve et de production des ressources naturelles…savoir évaluer les potentialités et les limites d’un milieu
5 protéger son environnement…participer à des actions d’information sur l’environnement
set of SVT notes taken by a student in 5ème, Babacar Tall*. Babacar had listed three different forms of pollution—atmospheric, sonar and water—and their consequences. For example, in the case of sonar pollution, people’s activities and movements involve loud cars, planes, and work sites, and this noise leads to headaches, insomnia, and thus impedes the ability to work effectively. It is important to note how this SVT lesson discussed the relationship between human activity and an environmental problem, and in turn the relationship between that problem and its consequences for human wellbeing. The lesson also detailed a series of steps citizens can take to reduce or counteract these consequences: “To combat pollution one must educate and inform the population; authorities must take responsibility and enforce respect of laws and regulations. People must re-forest and limit greenhouse gas emissions. They must favor development of bio-fuel and prohibit circulation of old cars…Many forms of pollution exist due to various causes; in all cases the consequences are bad for people” (Tall). The notes from this lesson are a quality example of teaching that aims to instill students with a sense of responsibility for their environment and the importance of acting wisely on a daily level.

Attending a SVT Class

After examining the objectives of Histo/Géo and close-reading a lesson of SVT, I came to see that technically-speaking, these curriculums stress the importance of protecting nature and its resources, address environmental issues, elucidate the role of humans in environmental degradation, and also offer ideas for improving human relations with the natural world. However, studying the curriculum could not tell me how fully or effectively professors transmit information to their students. In an attempt to see how the curriculum was relayed and received in an actual classroom setting, I attended a SVT class for students in Seconde. Although I was not able to control which lesson the professor was giving on that particular day, I thought it could be valuable to see how students interacted with their professor and among each other on environmental topics. During the first part of the class, a fair percentage of students were actively involved in the lesson, and professor and students were carrying on an active dialogue at

* The name of this informant has been changed to protect their anonymity.

6 Pour lutter contre les pollutions on doit éduquer et sensibiliser la population; les autorités doivent prendre leur responsabilité et faire respecter les lois et règlement. Les gens doivent reboiser et limiter l’émission des gaz a effet de serre. On favorise le développement des biocarburant et interdire la circulation des vieilles voitures. Certains produits chimiques qui ne sont pas biodégradables doivent être interdites…Il existe divers forme de pollution avec des causes varies, dans tout les cas les conséquences sont néfastes pour les hommes
a relatively quick pace. A number and variety of students of both genders were participating, and they seemed to have “done their homework,” that is to say they were able to respond to the professor’s questions and finish his sentences. When the professor transitioned to introducing new material, they all appeared to diligently copy notes.

Despite students’ active participation, their energy level seemed to wane during the second half of the class, with markedly less participation. Perhaps this was simply due to the fact that the professor was dictating new information, but perhaps it was something else. The lesson of the day happened to be focused on vegetation, and methods for measuring the abundance and dominance of a particular concentrated space of flora. It occurred to me that beyond the chalk sketches on the blackboard, it was unlikely that most students had had exposure to real expanses of vegetation, for outside the classroom walls lies a sprawling, smoggy city, with little to no areas devoted to wild plant life—trying to measure the abundance and dominance of vegetation in Dakar would be virtually impossible. Although these students knew about the dominance of vegetation in theory, the connection between this knowledge and their personal lives remains weak. I realized that although students may know the facts and material, that material has little visible application to their real city-based lives, which might explain why Dakar’s youth are so poorly invested in their natural environment, if that indeed was the case.

Secondary Educational Source: The Home

According to Senegalese sociologist Dr. Djiby Diakhate, “Family is the first school”. Before encountering formal education in school, children are first shaped by the ideas, attitudes and practices they are exposed to at home. The home as a setting for education is more private than the classroom and was thus less accessible to me, but I tried to get some idea of how Senegalese treat environmental matters in the home by talking to Senegalese students, Senegalese parents, and American SIT students. In my questionnaire I asked Senegalese students to rate how often their parents encourage them to take care of the environment, with 54% responding Often, 34% responding Sometimes, 9% responding Rarely and only 3% Never. In focus groups I investigated these results more in-depth, to find that responses were indeed varied. Most students indicated that their parents do instruct them to uphold a certain standard of cleanliness, but responses were varied on how far that standard reaches. Some said

7 La famille c’est la première école
unhesitatingly of their parents, “They forbid us to throw trash in the street.” One student said her parents instruct her to “behave in the street as if it was your own home.” Yet another said that while her mother tells her not to dirty their home, the same rules do not apply once she leaves the house. The general consensus seemed to be that some parents do encourage environmentally-friendly behavior, primarily indirectly through example, but it is uncommon for parents to explicitly teach their children about the state of the environment. One student said she thought of her mother as a good source of information because she able to relay a perspective of what Senegal was like when it used to rain more, before climate change was so extreme. However, this situation appeared to be an exception, as students more commonly responded that their parents did not receive the same education as they are receiving now, and are not as aware of the consequences manifesting themselves throughout the world now.

The Senegalese parents I spoke with demonstrated a heightened awareness of environmental issues in their city and greater world. Bouna Fall, father of three, was aware of the natural disasters and other human disturbances brought about by climate change. Mame Binta Fall, mother of three, spoke of how overrun with trash Dakar has become in the last few decades, that the city’s garbage collectors are often on strike, and that people are egotistical and do not keep their environment clean. Both Bouna and Mame Binta were aware of specific events in environmental affairs, for example Bouna informed me of Senegal’s participation in an environmental summit taking place in Stockholm, while Mame Binta said that rising water levels currently threaten to envelop Dakar. Additionally, both parents listed various ways in which they instill positive environmental values in their children, either through leading example or direct instruction. Several professors I spoke to were also parents, who testified to instructing their children to put trash in proper receptacles, not waste food or water, and other environmentally-conscious behaviors. However, when I asked these parents whether they thought their knowledge and practices were shared by most other parents in Dakar, and the consensus was no. The parents I spoke with were almost entirely either SIT staff members who are familiar with the Western world, or educators in the natural sciences, and thus they are privy to an exceptionally progressive perspective on the environment. Therefore, they were not a representative sample of Dakarois parents.

8 Ils nous interdit de jeter les ordures dans la rue
9 comporter dans la rue comme si c’était ta maison
I also interviewed a number of SIT students who had stayed in host families with children to find out what kinds of direct or indirect education they witnessed between parents and children. Although they rarely witnessed parents giving children overt instructions about taking care of the environment, they did list a number of practices that could be interpreted as subtle education through example. For instance, students said that host families rarely wasted food, and any leftovers were given promptly to animals or neighboring families. One student said her host family reused plastic water bottles for a homemade juice business; another said that food was never bought in excess but only in small quantities, just enough to fulfill the family’s needs one day or one meal at a time. Students said their host families kept their homes very clean and neat, and everyone witnessed mothers or maids sweeping the house and outside entranceway each morning.

Each group I spoke with—Senegalese students, Senegalese parents, and American students—mentioned conservational practices in regards to food and resources. Senegalese and American students testified to host families being very conscious about electricity, an expensive resource in Dakar, although a constantly-illuminated television is an exception. Students also said families are conservative with water when washing clothes or dishes, a practice I have personally witnessed not just in Dakar but in rural villages as well. However, American students suspected that this behavior was motivated more by economic reasons than environmental concern, and the Senegalese parents I spoke with echoed this sentiment.

According to Senegalese environmentalist Ahmadou Kandji, the home is not a significant source of environmental education because youth spend the majority of their day at school, and quality family time at home is sparse. However, after speaking with Senegalese students, Senegalese parents, and American students, I found that the home is an inevitably influential setting, and although certain environmentally conscious practices can be found there, direct education that specifically speaks to environmental problems is not a normative tradition in Dakar households, which poses the question of in whom youth can find positive role models in terms of environmental behavior, if not in their own parents.

Tertiary Educational Source: The Media

Based on the questionnaire I administered to students, in which I asked them to identify all of the settings in which they encounter information on the environment, 74% of students responded they obtain environmental information through the classes of SVT or Histo/Géo or both. However, an overwhelming 100% of students identified media as an educational medium
as well. Students cited television, specifically environmental documentaries, interviews or 
debates with environmentalists as examples. They also noted that the media informs them about 
days of awareness, known as Set-Setal, through posters posted around school or the 
neighborhood. While studying media as a source of environmental education was not part of my 
original research plan, the questionnaire results made it impossible to ignore the factor of media 
completely. However, limits of time hindered my ability to research this source thoroughly. 
Although I acknowledge the media as a huge influencing factor in the interests, styles, and 
behaviors of Senegalese youth, my research eventually indicated that this source is not powerful 
enough to supersede the cultural and historical context that shapes the way Senegalese youth 
behave in relation to the natural world.

**Student Awareness on Environmental Issues**

After studying three sources of environmental education available to Dakar students—
formal schooling, the home, and the media—I moved on to study the environmental conscience 
of these students. A conscience related to a particular subject involves a level of knowledge 
coupled with a set of values or standards that potentially compel one to act in a certain way. My 
first task was to develop an idea of what Dakar youth know about their local and global 
environments. How informed on environmental issues are young Senegalese; in other words, 
what does the average Dakar youth know about the ecological condition of their city, region and 
planet? Is the natural environment something they consider or recognize as valuable in the course 
of their daily activities? Does the average youth feel responsible for maintenance of the 
environment, and if not why not? According to them, who is responsible for the environmental 
maintenance of Dakar?

I conducted research at three schools in Dakar. Two were lycées, Lycée Blaise-Diagne, 
Lycée Thierno-Seydou-Nourou-Tall, and the third was a collège that specializes in the sciences, 
Le Bloc d’Enseignement des Sciences et de la Technologie. At the two lycées I worked primarily 
with students in Seconde, and at the college with students in 3ème. I chose to work with this age 
group, ages 15-17, because by this time students have received a fair number of years of SVT 
and Histo/Géo education, but these years are also before the final year of lycée, which is almost 
entirely devoted to preparation for the BAC. I distributed 115 surveys among four different 
classes at three schools. On the surveys I asked students to list any environmental problems they
knew of. While four students did not write down any examples of environmental problems, the rest wrote between one to three examples on average.

After compiling the responses I found that students were aware of a range of ecological issues, ranging from general to specific, urban to rural, and local to global. Some students listed very general examples, such as “the degradation of nature” and “the poor protection of the environment,” while others cited more specific problems, such as pollution in schools. Some examples applied specifically to an urban setting, such as waste management, emissions from vehicles and factories, lack of garbage cans, sonar pollution, stagnant waste water, polluted canals and beaches, and floods. Others I recognized as even more specific to Dakar, such as “garbage thrown wherever,” “the pollution by car-rapides,” and “the refuse that people throw out after the holidays of Tabaski, Korité, etc.” Additionally, several students demonstrated an awareness of environmental problems more removed from what they observe on a day-to-day basis, such as forest fires, degradation of soil, drought and desertification.

Many students also demonstrated a notable awareness of global problems, among them: atmospheric and oceanic pollution, endangered animal and plant species, harmful insects, greenhouse gases, over-exploitation of natural resources, propagation of toxic chemicals, and acid rain. Furthermore, some students noted how one environmental problem leads to another, such as how destruction of ozone layer leads to global warming, deforestation leads to drought, and melting glaciers lead to rising sea levels. Other students demonstrated awareness of the interrelation between social problems and environmental problems, listing such issues as poverty, lodging, hygiene, public health, the rural exodus, awareness of the population, lack of environmental education at home, and the indifference of the State. The most popular responses were global warming, garbage, and pollution.

After administering the surveys, I held two focus groups, one informal and one formal, to give students an opportunity to elaborate on their knowledge of the environmental problems they had listed on the questionnaire. Not only were students aware of these problems, but they were also very eager to demonstrate what they knew in terms of causes and consequences. For example, one student explained to me that global warming is a consequence of excessive production of CO₂, and the chain of events that results: a warmer climate leads to melting

10 dégradation of nature... la mal protection de l’environnement
11 les ordures jetées n’importe ou... la pollution par les ‘cars rapides... les saletés que la population jette après les fêtes de Tabaski, de Korité, etc.
glaciers, which leads to higher sea level, which then leads to floods or coastal erosion. Another explained how humans cut down trees for material to make tables, beds and buildings, and clear-cutting leads to a deficit of oxygen. One student told me that cars and factories produce gas that pollutes the atmosphere which then leads to diseases, and another informed me that the plastic bags people throw everywhere on the ground in Dakar are non-biodegradable and take over 200 years to be reintroduced into the soil. This student also told me that toxins from garbage can render the soil infertile, and if the land becomes poor, Senegal will no longer be good for cultivation. I noted that students accompanied each explanation of environmental plight with a note about the human role, both in terms of causation and repercussion.

After examining the written curriculum of SVT and Histo/Géo and investigating what environmental topics students were aware of, I began to see that the content of environmental education is not to blame for the environmental neglect here in Dakar. Professors impart up-to-date information on the state of the environment to their students, and students in turn seem to absorb this information and have a pretty sufficient understanding of it. The next step was to see how students’ knowledge of environmental problems influences their daily behaviors.

Student Behavior and “Guilty” Environmental Conscience

While understanding current environmental problems is a major component of a heightened environmental conscience, awareness alone is not enough. According to a professor of Histo/Géo, the objective of an environmental course is to equip students with knowledge and practices in order “to heighten awareness so that students can improve their way of life” (Faye 2009). A teacher’s mission is not solely to transmit information but to truly make an impression on their students, to try to make sure that they carry knowledge acquired in the classroom and apply it to their outside life. I set about to find out whether the daily practices of Dakar’s youth constitute care or neglect of their environment. As I previously discussed, the lack of consideration Dakarois seem to have for their environment is manifested in the rampant refuse present all throughout their city. During my first focus group, after discussing an array of environmental issues with students, I asked students to tell me frankly, aside from what they knew, what they actually did with their garbage throughout the day. Without hesitation they responded unanimously that they throw their trash on the ground. They gave various explanations for this behavior, the most popular response relating to the shortage of resources,

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12 élever la conscience pour qu’ils puissent améliorer leur cadre de vie
specifically the lack of garbage cans in their city, and how garbage collectors come through neighborhoods inconsistently and infrequently.

Although it is true that Dakar lacks resources for effective waste management, I felt that this insufficiently explained the problem of environmental neglect. I decided to test their explanation by observing what Dakar students actually did with their trash. I chose to conduct my experiment at school because it is a somewhat controlled setting where students are somewhat apart from other members of society that might influence them either negatively or positively. In the school courtyard, students are away from the scrutiny of authoritative adult educators, yet not too removed from the classroom where they study environmental topics. Also, unlike the streets of Dakar, where one can walk miles without finding an official trash receptacle, Dakar’s schools have trash bins in classrooms as well as in courtyards, so lack of resources could not be an excuse for failure to place garbage in a proper place. From my observational point at Lycée Blaise-Diagne, I could count 9 substantially-sized trashcans placed at various points around the courtyard for student use; at Lycée Thierno, there were at least 10. I observed students during the morning break periods when many of them purchase food. After finishing their sandwiches or coffee, students had remaining newspaper wrappers or little plastic orange cups, and one by one they let their garbage fall to the ground, often when a trash bin was only several feet away. I did not see one student take the few steps to place his or her garbage in a proper receptacle.

At this point in my research, I had found that Dakar’s students are knowledgeable about environmental matters, including problems that specifically plague their city, and they are especially aware of the issue of garbage. Yet observing their actions in the presence of trash receptacles showed that there was a discord between what students know and what they do. The disagreement between knowledge and behavior was confirmed by students themselves during focus groups, and further complicated by the results of several questions on my questionnaire. On the questionnaire, I had asked whether students found the state of the environment in Dakar to be worrisome. 62% said they found it very concerning, 30% found it somewhat concerning, and only 6% found it not at all concerning. I also asked several questions relating to practices with garbage. When asked what students do with their garbage during the day, 50% of students chose the response, “I always put it in a garbage can” and 41% chose the response, “I put it in a garbage can, if possible.” Together, 91% of students claimed to put their trash in a proper receptacle, provided that a receptacle is present. Only 7% and 1% responded that they throw
their garbage on the ground often or always, respectively. A follow-up question asked, “If you throw your trash on the ground, why?” and a majority of students, 69%, chose the response, “Because I can’t find a trashcan.” Furthermore, a third question in the same vein asked if students try to limit their waste to avoid pollution, and again a majority of 64% chose the response, “Yes, I make an effort.”

According to what I had observed on the high school campuses, students’ responses on this section of the questionnaire poorly reflected their actions. I did not see evidence that a large majority of students were concerned by the state of the environment in their city, for I did not observe an overwhelming majority of students place their trash in an appropriate receptacle, nor did I see them make a visible effort to do so. In fact they all did quite the opposite, and in all of these cases students were in close proximity to trash bins, making the pretense “I can’t find a trashcan” unconvincing. The responses to questions pertaining to littering behavior did not reflect the behavior I had observed, as though the students had instinctively and collectively marked the more eco-friendly responses because they thought they should. This phenomenon indicates that not only do students have knowledge about environmental issues, but they have a sense that their behavior should reflect that knowledge. The untruthful questionnaire responses are a result of what one might call a “guilty environmental conscience.” Thus the question became, why is there a contention between students’ knowledge and students’ behavior, especially when they have a sense that the two should match?

III. HISTORICAL AND SOCIOCULTURAL FACTORS

After investigating both student knowledge and student behavior in regards to environmental awareness and eco-friendly practices, my research project altered course, from a study on environmental education to a study of the lacuna between knowledge and behavior among Dakar’s youth. My research also demanded that I consider the adult members of Senegalese society, and not simply the youth. Children and youth are inevitably influenced by the elders around them, and these elders represent a cultural and traditional context more powerful than school, home and media put together. To understand why Senegalese youth behave as they do, I had to inquire into what kind of culture they were born into.

Mbedou Bour
I spoke with environmentalist Ahmadou Kandji and sociologist Dr. Djiby Diakhate, who introduced me to several aspects of Senegalese society that lend insight into the environmentally-illiterate behavior of Dakarois. Mr. Kandji informed me of the Senegalese concept *mbedou bour*, a Wolof term that translates literally to, “The street belongs to the king,” or in a modern context, “The street belongs to everyone.” The “street” represents the literal road but also public urban space in general. Instead of seeing *mbedou bour* as encouragement to share responsibility for keeping the collective “street” clean and free of garbage, Senegalese use it as an excuse to leave care of public property in someone else’s hands (Kandji 2009). Unfortunately, when each individual avoids ownership and responsibility of communal space, the street is left abandoned. “The street belongs to everyone…but not everyone takes care of the street” (Kandji 2009).

According to Mr. Kandji, “In general, the Senegalese think that outside of their home, it is no longer their problem.” As a result, their collective perspective is “selfish, narrow, and individualist” (Kandji 2009). Senegalese dress impeccably and keep their houses and courtyards immaculately neat, indicating that they are indeed concerned with their environment, but not much farther than their own front door. This type of mentality proves detrimental to the outlook required for a heightened ecological conscience, which requires one to look beyond their immediate context to a larger global environment.

Both adults and youth I spoke were familiar with the concept of *mbedou bour*. Furthermore, the responses to a particular question on the questionnaire I administered supported the theory that the concept persists in present-day Dakar. I asked students to choose the setting in which they felt the state of the environment was most worrisome: Dakar, Senegal, Africa, or the entire world. 46% of students chose either Dakar, Senegal, or Africa, while 56% of students choose the entire world, indicating that a little under half of students tend to consider a more local context in terms of environmental problems, whereas a little over half have a more global orientation toward the same subject.

**Ethnic Identity Versus Citizenship Identity**

If the *mbedou bour* syndrome means that many people in Dakar are exclusively concerned with their immediate environment, it indicates that they do not feel a sense of

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13 La rue appartient a tout le monde… mais tout le monde ne prennent pas soin de la rue
14 Les Sénégalais ils pensent en général que en dehors de leur maison, ce n’est plus leur problème
15 égoïste, réductrice, et individualiste
communal ownership for their own city. According to sociologist Dr. Diakhate, the people of Dakar continue to exist in “mental states of origin.” To investigate this theory further, I looked into Said Adejumobi’s chapter “Identity, Citizenship and Conflict: The African Experience” in *The Crisis of the State and Regionalism in West Africa*. Adejumobi discusses what it means to be a citizen and why ethnic identity takes precedence over citizenship identity in many West African countries. According to Adejumobi, citizenship is “a form of social pact, constituted by the dual elements of reciprocity and exchange between the individual (citizen) and the state. The individual enjoys those rights and privileges which no other social or political organization offers, while in turn, he gives his obligations, loyalty and commitment to the state” (2005).

However, in pre-colonial African society “primordial identities were the foci of individual rights, and not the state” (Adejumobi 2005). One must consider that before Senegal was created and colonized by the French, the region was made up of several small states, which contained kingdoms and within those kingdoms, family clans (Diakhate 2009). Once colonialism entered Senegal, it created what Adejumobi calls the “bifurcated state.”

On the one hand, there was the central state governed by civil laws which was the domain of the colonizers, largely urban-based, and on the other hand, there was the local state or the native authorities, which enforced customary laws. The former was the domain of rights and privileges associated with citizenship; the latter was a terrain of ‘culture’ and ‘custom’. The natives or the colonized were subjects and therefore not entitled to citizenship rights or benefits…The sharp division between the rural and the urban, the native and the settler, and the horizontal fragmentation of the natives into ethnic entities and identities through the Native Authority system placed severe limitations on the ability of the emergent indigenous political elite to muster a broad national base…the bifurcated nature of the colonial state produced and encouraged ethnic-based political identities in the decolonization period and beyond (Adejumobi 2005).

Today, ethnic identity eclipses national identity for many Senegalese. Senegalese people still place huge value in family names—people identify themselves as Jola, or Serer, or Peul more often than Dakarois or Saint Louisian. As another example, during the recent holiday weekend of Tabaski, many families left Dakar to reunite with their extended families in their regions of origin. Several students I spoke with said that despite being born in Dakar, they identify with the region from which their parents or grandparents came. Said one, “Here in Senegal you say that you were born in Dakar but you come from the village.”” Because even people living in the city still identify with their states of origins, they are more loyal and committed to their ethnic community and territory, which therefore detracts from a collective sense of concern and respect for Dakar.

16 Ici au Sénégal on dit qu’on est né à Dakar mais on vient du village
**Past-Oriented Society**

Another conceptual phenomenon particular to Senegalese is the attitude, “I fix my problem now” (Kandji 2009). This approach to problem-solving connotes a focus on the present time and circumstances. The self-referential “I” and possessive “my” reveals a focus on oneself, and the time marker “now” reveals a focus on the present time. When one only considers the present or very immediate future, it is difficult to grasp how one’s actions now could have serious effects later. To understand why this temporally-narrow perspective is present in Dakar, one must know that Senegal is home to a past-oriented society. Based on the concept of the Culture Compass, devised by Paula Chu as a tool for understanding different types of cultural worldviews, each culture can be characterized as orientated toward the past, present or future (Chu 1996). Past-oriented societies are based on the assumption that “today flows out of the legacy of the past,” and members of this type of society are concerned with tradition, looking to “history as context and teacher” (Chu 1996). Traditionally, Senegalese fall into the past-oriented category (Diakhate 2009). One element of this orientation toward the past is gerontocracy, or authority of the elderly. According to Diakhate, this “translates literally to a space of power and privilege reserved for the eldest people in the community” (2009). Younger members of society “consider elders as mediators between the world of the dead and that of the living, the world of gods and that of men, the visible world and that which is invisible. Elders determined the frame of behavior in the community by looking after the distribution of roles and statuses” (Diakhate 2009). This explains in part why “certain spheres of African society still resist and hold on to traditional practices” (Diakhate 2009).

Senegal’s past-oriented society affects people’s potential for heightened environmental conscience in two ways. Firstly, people belonging to a culture that is more concerned with the present or past than the future are less likely to consider how their behaviors will impact generations to come. Secondly, a society based on gerontocracy is inherently limiting for

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17 Je règle mon problème maintenant
18 traduit littéralement un espace de pouvoir et de privilège réservé aux personnes les plus âgées de la communauté
19 prennent les personnes âgées pour des médiateurs entre le monde des morts et celui des vivants, le monde des dieux et celui des hommes, le monde visible et celui invisible. Les personnes âgées déterminaient le cadre de comportement dans la communauté en veillant à la distribution des rôles et des statuts
20 certaines sphères de la société africaine résistent encore et s’attachent à des pratiques traditionnelles
younger generations. “Here you give respect to elders21” commented one student during a focus group. For the Senegalese, is culturally insensitive to instruct or reproach the behavior of one’s elder. Therefore, when a young person sees an adult commit some form of environmentally-insensitive behavior, such as littering, they are pulled in two directions by two opposing forces: one force is the awareness they have of contemporary environmental problems and the sense of responsibility to act accordingly; the other force is the traditional cultural standard to place respect and trust in elders. This tension is most likely unconscious on the part of Senegalese youth, but it is nevertheless present, and my research findings indicated that it in the conflict between modern global issues and cultural traditions, the latter usually overpowers the former.

IV. POSITIVE ENVIRONMENTAL INITIATIVES IN DAKAR

Le Village Planétaire

Dakar’s youth have a heavy responsibility on their shoulders but multiple factors working against their ability to carry that responsibility forward. However, in the course of my research I came across several small yet positive initiatives that made me more optimistic for the future of Dakar in an ecological context. The first positive initiative was introduced to me by professor of Histo/Géo Daouda Leye, which is the idea of le village planétaire or “the global village.” Canadian philosopher and sociologist Marshall McLuhan pioneered the expression of the global village in 1967 as a way to describe the effects of globalization (Benkirane 1998). As we know, Senegalese students learn about deforestation, mining, pollution, desertification, and other issues of environmental degradation symptomatic of our modern age. But according to Mr. Leye, teachers are also trying to acquaint students with various positive aspects of globalization, for instance the fact that countries are able to share resources, information, and people through advanced methods of communication and transportation—these forms of progress create a virtually smaller and more unified world, thus the term global village (Leye 2009). During one of my focus groups, students confirmed that they had heard of this concept, and one explained the importance of it, saying that when for example, a person makes efforts to lower effects of greenhouse gases, it is “not only for Senegal, but for the entire world22.” The concept of Earth as one large village community prompts students to think about themselves not as Senegalese, but

21 Ici on donne la respecte aux grandes personnes
22 pas seulement pour la Sénégal, mais pour le monde entier
as inhabitants of the world (Leye 2009). It also encourages them to think of the effects their actions could have on a habitat beyond their own neighborhood, city, and even country.

*Le Microjardin*

The second positive initiative I discovered was a project being led by biology professor Yakhya Sow at the Bloc d’Enseignement des Sciences et de la Technologie in Dakar’s Point E. Mr. Sow has worked at this *collège* since 1998, and several years ago he started a *microjardin*, an organic garden, on its grounds. Just inside the entrance, a simple wire fence encircles a section of campus devoted to the garden, which grows in several low-sitting planters and pots. Mr. Sow uses natural fertilizers, a homemade compost of peanut shells and clotted soil, as well as recycled Styrofoam panels that absorb water for a hydroponic garden. The garden yields organic lettuce, tomatoes, green peppers, and mint. Students, teachers, and other members of the community can purchase this produce to take home and eat with their families. Although Mr. Sow is the official keeper of the *microjardin*, he imparts his knowledge of gardening to his students, instructing them on the science of soil density, and how to plant, water and fertilize. He explained to me how *microjardins* can help regulate the problem of poverty, because people make a business out of growing and selling their own fresh produce. The garden is a small endeavor but a visible example for students of how with a bit of care, nature can thrive amid so much degradation.

*The Scout Movement*

The third positive initiative I studied was Senegal’s Scouts and Guides. Founded in 1907 by Lord Robert Baden-Powell, the Scout movement is a worldwide organization based on education through action that aims to foster the physical fitness, personal development, and participating citizenship of youth (Boy Scouts 2009). Senegal is one of the 185 countries in the world with its own Scout organization (Senkto 2009). The movement includes male Scouts and female Guides, and is composed of three age groups: the youngest *Louveteaux* (7-13), the adolescent *Eclaireurs* (13-17) and young adult *Routiers* (over 18). I spoke with the regional director of Scouts in Dakar, Pierre Sagna, and I also attended a meeting of the troop 5ème Dakar at l’Eglise St. Thérèse where I spoke with youth advisor Alyouse Ndong.

Historically, Scoutism has placed a great importance in the wild outdoors, the original activities of Scout troops being camping, hiking, and other excursions in the natural world.
According to Article 10 of the Scout Code, “The Scout sees in nature the work of God. He loves and protects animals and plants” (Sagna 2009). Scout leaders aim to “let youth experience the ideal of natural life” through “the respect, the protection and the judicious exploitation of nature” (Ndong 2009). Scouts have the chance to gain first-hand experience of camping or trekking in the outdoors “without leaving a trace” (Boy Scouts 2009). The troop’s youngest members are charged with being vigilant and keeping the camp proper and clean, and ensuring that the troop does not harm the natural setting (Ndong 2009). These values and practices of respecting nature provide a foundation for the acts of community service that troops like the 5ème Dakar do for their community. For example, Scouts attend to environmental issues in their local region, occasionally doing Set-Setal, or “days of awareness,” when they gather to clean a particular dirty location—perhaps a school, their parish, or another part of the neighborhood in need. The 5ème Dakar recently did a Set-Setal at the Center of Health, as well as at a beach in Mbour. The Scouts are also responsible for an awareness campaign, the theme of which changes each year and sometimes concerns the environment, and they are asked to spread this information starting at home.

The Scout movement is defined by a number of qualities that are important in the context of environmental problems in Dakar. The first is an emphasis on nature, which instills youth with a sense of respect and commitment toward their natural world that may be otherwise absent from the cultural education of most people in Dakar. Said youth advisor Alyouse Ndong, “Nature belongs to everyone. We must preserve it.” Secondly, being a member of the Scouts and Guides is voluntary—it indicates a personal initiative that is often absent among Dakarois youth, particularly when it comes to matters of the environment. Thirdly, Scoutism presents the beginning of a solution to the catch-22 problem of environmental awareness in Dakar: in the Scouts, youth find positive role models who demonstrate examples of proper citizenship and environmental behavior. These mentors are not chosen based on their age or level of education, but based on their “Scout level and level of humanity” (Ndong 2009). Likewise, Scouts are encouraged to share their knowledge with others who are unaware, even if those people are older. “You cannot always wait for the adults,” said Ndong. When I spoke with several Scouts, 

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23 Le Scout voit dans la nature l’œuvre de Dieu. Il aime et protégé les animaux et les plantes
24 faire vivre aux jeunes l’idéal de la nature…le respect, la protection et l’exploitation judicieuse de la nature
25 La nature c’est la nature de tout le monde. Il faut le préserver
26 niveau Scout et niveau humain
27 Il ne faut pas toujours attendre pour les adultes
they told me that they try to promote awareness in their elders, but they must do so in a respectful manner.

V. CONCLUSION

Synthesis and Suggestions

I originally hypothesized that, in light of the environmental degradation prevalent throughout Dakar, there was a flaw in the educational setting that would very clearly explain the lack of eco-conscious behavior of the city’s inhabitants. I thought perhaps the environmental curriculum was insufficient or outdated, or perhaps there was a poor translation of information between professor and students, or even an apathetic, uninterested student population. I set about to study environmental education in the school, the home and the media, and found that there is a gap between what students know and what they do in regards to the environment. To attend to the cultural factors fueling this gap, my research altered course and I learned of various concepts characteristic to Senegalese and African traditional society, including a focus on the immediate environment, an inclination toward ethnic identity over citizenship identity, an orientation toward the past, and a standard of respect and loyalty for the elders in the community.

These traditional sociocultural concepts and codes of conduct present a problem in the context of the current environmental crisis. For one, these concepts continue to persist in the minds of many adults in Dakar, when it is these adults who should be setting positive examples for their youth, especially when it comes to respecting the environment. On the other hand, as much as the youth need positive role models, their elders are often uneducated on current environmental issues and therefore need to be made aware by the younger, more environmentally-aware generation. Unfortunately, students’ knowledge on the subject of environmental degradation is stifled by gerontocracy, which dictates that Dakar’s youth traditionally belong to a society that emphasizes respect and deference to elders and thus limits their influence.

Positive initiatives like the concept of the global village and the microjardin project are small but powerful movements that can affect both the thinking and actions of Dakar’s youth. Furthermore, Dakar is in need of more movements like the Scouts—engaging, voluntary youth initiatives that expose kids to positive role models, who encourage them value their environment through acts of service for the betterment of their community. Funding for these youth initiatives is equally important as funding for environmental NGOs or a better waste management system.
Dakar’s youth must be empowered by the environmental knowledge they possess, they must feel compelled to claim ownership of their city, and they must bend deeply-entrenched traditions so as to lead an environmentally-conscious movement for the wellbeing of their city, their country, and their planet.

Appendix 1: Questionnaire on Environmental Opinions and Practices of Students

Etes-vous d’accord pour l’utilisation de cette information pour un projet de recherche ?
Oui  Non

Genre :  F  M

Classe :  ______________

1. En générale, vous intéressez-vous à l’environnement naturel?
   a. Cela ne m’intéresse pas du tout
   b. Cela m’intéresse un peu
   c. Cela m’intéresse beaucoup
   d. Cela m’est indifférent

2. Selon vous, la protection de l’environnement, c’est
   a. Pas important
   b. Plus ou moins important
   c. Important, mais il y a d’autres priorités
   d. Très important

3. Quels sont les problèmes environnementaux que vous connaissez ? Énumérez-en quelques exemples :
4. Qui est responsable de la solution de ces problèmes ? (Choisissez tout ce qui s’applique)
   a. Mes amis et moi
   b. Les adultes
   c. Les organisations concernées par l’environnement
   d. L’Etat
   e. Tout le monde

5. Dans quel cadre rencontrez vous des informations environnementales? (Choisissez tout ce qui s’applique)
   a. Pendant le cours d’Histo/Géo
   b. Pendant le cours de SVT
   c. Entre amis
   d. A la maison
   e. A travers les medias (télévision, radio, journal écrit, etc.)

6. L’état de l’environnement est plus préoccupant
   a. à Dakar
   b. au Sénégal
   c. en Afrique
   d. à travers le monde entier

7. Vos parents vous encouragent-t-ils souvent à prendre soin de l’environnement ?
   a. Souvent
   b. Parfois
   c. Rarement
   d. Jamais

8. Essayez-vous souvent de sensibiliser votre famille sur les questions de l’environnement ?
   a. Souvent
   b. Parfois
   c. Rarement
   d. Jamais

9. Pendant la journée, qu’est-ce que vous faites de vos déchets?
   a. Je les jette toujours par terre
   b. Je les jette souvent par terre
   c. Je les mets dans une poubelle, si possible
   d. Je les mets toujours dans une poubelle

10. Si vous jetez les ordures par terre, c’est parce que
    a. Je ne peux pas trouver une poubelle
    b. Je n’ai pas le temps de trouver une poubelle
    c. Je n’y pense pas souvent
    d. Tout le monde le fait
11. Est-ce que vous essayez de limiter vos ordures pour éviter la pollution?
   a. Non, ce n’est pas ma préoccupation
   b. Non, ce n’est pas ma responsabilité
   c. Oui, je fais un effort
   d. Oui, quand je peux

12. L’état de l’environnement à Dakar, c’est
   a. Pas préoccupant
   b. Plutôt préoccupant
   c. Très préoccupant

13. Vous êtes :
   e. Dakarois(e)
   f. Sénégalais(e)
   g. Citoyen(ne) du monde
   h. Tout à la fois
   i. Autre

14. Quel phrase décrit le mieux votre opinion sur l’avenir de l’environnement ?
   a. Je suis pessimiste
   b. Je suis neutre
   c. Je suis optimiste
   d. Je suis indifférent(e)

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