



ENTREPRENEURS ENVIRONMENTAL EDUCATION: A CASE STUDY IN LUANDA, ANGOLA

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ABSTRACT

This study was developed aiming to reflect about the environmental education's paradigms as an awareness tool in the management. This is a case's study with Company X's employees, at Samba municipality, Luanda City, in Angola. This work is based on Koontz & O'Donnell (1982) and others cited that deal with the business environment; gathers approaches from Fogliatti, et al. (2001) to interpret the environmental relationship with the Capra and Schein's (2009) fundamentals categorizing the group culture; the interpretation of the systems is on Andreoli (2011), and the bases of social responsibility are by Credidio (2007). The methodology's construction is supported in Nérici (1978), with classic recommendations from Likert's Scale. The method of exploratory research of descriptive nature was adopted. As the technical procedures were practiced actions involving observation, raising, involved actors' awareness, and the construction of this case's study. The information were collected with qualitative and quantitative research's strategies through questionnaires and open interviews, applied before and after the process of environmental awareness with staff and managers in the operational, production, storage and maintenance area. Visits of follow-up in the company were realized to complement necessary tasks and measure results. At the end of the research is concluded that, although this is the first intervention in this typology, the environmental

awareness into this company was satisfactory. Because improved the environment in the tasks' conduct, it allowed employee's engagement which now offer subsidies for continuous improvement; The group interaction was amplified, increasing recreation with gardens and other environmental correct initiatives, and allow the construction of this useful work as a reference for interested companies in similar and related measures. It is suggested to keep this work in a continuous process.

KEYWORDS:

Environmental Education, Sustainability, Social Responsibility.

INTRODUCTION

The educational practices of environmental awareness toward to the attempting to solve the serious problems related to environmental issues have different approaches that, when put together, can contribute greatly to expand the capacity for sustainability of planet Earth and improve the quality of life in the natural and cultural environments . In this sense this study seeks to understand the aspects of fundamental conceptual relationships that involve the human, society and nature, in order to provide a basis for understanding and solving the environmental problem. The main purpose is to reflect the paradigms of awareness as a strategy for the formulation of consistent attitudes with environmental sustainability in business management in a country of African origin.

The environmental education as a paradigm of educational awareness for sustainability of the planet in recent decades has been the target of courses, debates, studies, research and marketing. The fact arises from its essential contribution guidelines for decision making at the corporate level and also in the development of contemporary society. Critical reflection promoted by education about environmental issues accomplishes its objective if the result is added into the routine of society, changing habits and behaviors in the consolidation of a new environmental culture. Although each of these mechanisms represents a crucial role, the most important for the origin of culture comes to the impact they are to the leaders. Besides choosing the basic mission and environmental context in which the new group will operate, the people who decide also select their members and influence the original responses that the group sends in an effort to be successful and to integrate to the environment.

Some random searches indicate significant problems that threaten the environmental future in the humanity. The inequality in the wealth distribution and the consumption in populations surpass the cause-and-consequence relation. Studies on the premises of sustainability show that about 20% of the world population - just over a billion people in a total of seven billion - account for another 80% of global consumption of energy and raw materials. The minority consumes excess, participating in globalization, while the overwhelming majority suffers from a lack of food, housing and sanitation. This discrepancy in consumption is the final link in a chain of inequalities that undermine the assumptions of development and sustainability in African countries.

When we talk about the environmental crisis we must reflect that this issue has always been present in human history. Several historical indicators reveal the faces of inequality whether artistic, philosophical and scientific that since antiquity express humanity's quest in understanding the relations between human beings, society and nature. A study that emerges from the academy shows that in the twentieth century, the concerns have been expressed more clearly, as the complaints of the consequences of the Industrial Revolution, promoting changes in the forms of production mainly from the nineteenth century, caused severe environmental impacts, especially in the poorest countries.

After the Industrial Revolution, under the grant of the growing clean technologies is consolidating one economic model based on rampant consumption promoted by exclusionary globalization, leaving poor nations to marginalization. The formation of bodies such as the World Trade Organization (WTO) and the multinationals, they are not concerned with the humanity's welfare. The environmental issues, although mentioned in the documents of international reference, haven't been producing results to ensure the improvement of quality of life on Earth planet.

In most environmental initiatives of the corporate world, the environmental education programs materialize in three actions: First, environmental education is realized in specific events. It is common sense companies limit their educational programs to traditional lectures in the week of the environment, involving employees who stop their activities to listen passively to the speaker addressing some issue related to the environmental cause. A second educational action is often used by companies to limit their environmental education programs to initiatives developed with an external audience. Thus, lectures in schools, supporting the implementation of selective collection programs and integrative competitions are sold as part of corporate social commitments. The third educational activity a lot used is to prepare the organization to meet the standards and procedures established in the standards of ISO 14001. This standard requires companies to define various actions with the goal of making all hierarchical levels know the background of its environmental policy. It involves specific procedures and requirements for analysis and preventions of the environmental impacts of the company activities. It also aims to trace the profile and characteristics of their respective roles and responsibilities to ensure compliance with legal procedures and requirements.

ISO 14001 is an internationally recognized standard that defines what should be done to establish an Environmental Management System (EMS) effective. The standard is developed with the objective to create a balance between maintaining profitability and reducing environmental impact, with the commitment of the entire organization. With it is possible that both goals are achieved.

It's important to quote the three major initiatives mentioned nevertheless constitute major initiatives. But there is still a need for these simplistic approaches, often very doubtful, suffer one paradigm shift to ensure changes in attitudes of environmental care about the Earth planet. These actions are classified as 'simplistic', end up serving as product for companies to disclose as social responsibility in environmental sustainability. But it is all sustained in weak structure discourses. This is because these initiatives fail to ensure the construction of a corporate culture that ensures a company profile politically correct.

Sato & Carvalho (2005, p. 12), demonstrate that the environmental issue from the perspective of a critical education towards to the planetary sustainability is limited to Brazil. This is because the international dimension is one of the characteristics of the EE, which, as the environmental debate generally has its roots in a rather globalized, featuring it as a practice in which the local identity roots coexist with a strong international dialogue excited by debates and conferences and the exchange of experience on global level. Therewith it goes beyond the boundaries of the territories, making a global dialogue that shows a fertile field of concerning in many countries.

The Scenario of Study Case

The industries that there are in the city include the transformation process of agricultural products, production of beverages, textiles, cement and other building materials, plastics, metallurgy, cigarettes and shoes. The oil extracted in the vicinity, is refined in the city, though the refinery has been repeatedly damaged during the civil war that ravaged the country between 1975 and 2002. And Luanda has an excellent natural harbor; amongst what the main products exported are coffee, cotton, sugar, diamonds, iron ore and salt.

This study was aimed at certain company X, which is located in Samba, a county in the province of Luanda, in Angola, which is 345.3 km² large and has approximately 54 thousand inhabitants. It's limited to the south and west by the Atlantic Ocean, to the north with the county of Maianga and Kilamba Kiaxi and Viana. It's constituted by the county of Corimba, Futungo de Belas, Benfica and Mussulo. Remembering that the Mussulo island is situated in this county. The work will enable one to analyze environmental awareness programs in the corporate world in the international business background and its effects on the corporate management before and after the implementation of the program. The study presents the relationship of the company regarding the environmental education and social sustainability.

The reports of the United Nations Development Program (UNDP, 1999b) shows that in Angola there are environmental problems related to air pollution, the enormous concentration of solid and liquid waste, lack of drinking water, highway traffic congestion, criminality, poverty and the collapse of providers structures of social services, which feature some of the African country's urban households.

THEORETICAL GROUNDING

The theoretical basis of this research turns to the theoretical concepts that are extremely important for the development of research. Initially, discusses the concept of business and the environment. After, shows the reference point on global environmental issues, and also some information geared directly to Angola. It also emphasizes on the establishment of a new environmental culture from education to environmental sustainability. Moreover, we highlight the importance of environmental management, especially in the business mean, based on concepts, standards and legislation related to the subject and deepening of the social responsibility and sustainability.

The Company

It is known that in modern societies there are millions of companies. Most of them will be inserted in the capitalist system and the major objective is the profit. This is a process without returns: man and the company are dependent from each other, so it can be seen as “a face of the same coin”.

In the capitalist world, the highest priority is the profit over the mankind environmental quality of life. The concern with the serious environmental problems is not a priority. In greed for expanding capital, men trample everything and everyone. Most companies on the world stage are examples of disregard over the environment. Sustainable development is only the economic alternative to justify environmental damage.

There are several definitions for the word "company". But generally, they all refer to a legal entity which aims to pursue a particular activity, public or of mixed economy which essentially provides goods or services to supply certain human needs. Traditionally, from the economic point of view, the company aims at optimizing profit and equity.

To Koontz & O'Donnell (1982), companies have a social purpose. Therefore, stress that "companies, as well as men, do not live for themselves. They are intertwined institutions that men decided better fitting to organize so it could meet their needs." And Richers (1986) says the company has a social purpose in the transformation of goods essential to the development of society in a useful interaction with human values. And what about for Kunsch (1986), the social function of the company is seen as an open system in which it is essential that there is a continual exchange between business, the environment and humans. According to the author is of fundamental importance that the company considers the ecological aspects in their internal and external organization.

Today, most companies have sought new ways for growth, taking into account the care for the environment. Thereby encourage their professional environmental education that influences the promotion of corporate social responsibility in generating multipliers that spread the awareness and expands the environmental quality of life in society.

Environment

The vast majority that regards the environment is always a man's relationship with nature. This understanding is related to common sense on the environment as only the fauna and flora, as if they were synonyms. What shows us that the environment is a complex concept, which, although well known, it is not often clearly defined even in academic field.

To understand the serious environmental damages it's primal for us to understand the environmental impacts. For Fogliatti, et al. (2001), the environmental impact is any change caused by human actions on the natural and cultural. However, the most appropriate scientific frameworks to discuss the serious environmental problems lies in ecological studies related to the theory of living systems, which is one of the defenders Capra (2000, p. 20), and others that argue that the paradigms of systems thinking. In the international system on the environment there are several definitions for the concept of environment. The following are definitions of the various international documents.

COUNTRY	YEAR	ENVIRONMENT - DEFINITIONS
Australia	1975	"Every men environment aspects that affects him as an individual or that affects the social groups". (Environmental Protection Act, 1975 - Australia).
Cuba	1980	"And the biotic elements system, abiotic and social-economic, with what the man interacts, once he adapts to it, transforming and using it to satisfy his needs". (Law 33 de 27.12.80 – Cuba).
Brazil	1981	"The group of conditions, laws, influences and interactions of physic, chemical and biologic order, which allows and house life in all it`s styles". (Law 6.938 de 31.08.81 - Brazil)
California	1981	"The physic conditions that there are in a certain area, including soil, water, air, minerals, flora, fauna, noise and elements of historical or esthetic meaning". (Califórnia Environmental Quality Act, 1981).

Source: http://ivairr.sites.uol.com.br/def_meioambiente.html.

Therefore, understanding the balance of nature is of fundamental importance to life on planet earth. Thus, we need to be more involved (interacting, reworking, making and acting in the environment in which we live), because only then we realize as part of the environment and, in addition, with the awareness that it's from the earth planet where we take our livelihood. Therefore, in the latest decades, there is an enormous concern about the degradation of the planet. The societies (local and global) have been engaged in finding solutions for the preservation of the environment and, consequently, of our planet.

Fogliatti et al (2011) points out that only after 1968, when a group of scientists, philosophers, industrialists and economists from different countries, the discussions began regarding the limits of growth. This group of people became known as the Club of Rome. Concerned about the pollution caused by human activities hitherto undertaken without considering the sustainability of resources employed, they proposed the preparation of a report on the future of humanity. From this it is which began the evolution of the environmental movement in the world, as emphasized below.

Schedule : Environment – Chronological Scheme on World Referential Marks

YEAR	FACT	DISCUSSED SUBJECT
1969	The United States of America created the National Environmental Policy Act (NEPA)	Made it an obligation the elaboration of Environment Impacts Studies (EIS), for any activity with polluting potential.

1970	The United States created the Environmental Protection Agency (EPA)	Environment Control Body responsible for the administration and execution of federal programs of environment control and pollution.
1972	First data from the Club of Rome (The Limits to Growth)	Dealt with issues that afflict the humanity such as the contrast between the poor and the rich, environment spoiling, lack of Jobs, consumerist practices.
1971	Fournex Seminar hosted in Fournex (Switzerland)	Environment and Expert's Panel on Development , where it's been discussed the issues related to environmental deterioration
1972	Conference of Estocolmo, by UN, about Environment	Official First Meeting that treated environment subject. It's coined the Concept Eco-development
1972	Creation of United Nations Environment Program) (UNEP)	Coordinate the international acts on protection to the environment and development promotion.
1975	International Meeting over the environmental education in Belgrado (Yugoslavia)	Belgrado's Chart calls world's attention to the need of eradicating the causes of poverty, pollution, illiteracy and also to the equal distribution of planet's resources
1983	The UN create the World Commission about the Environment and Development (Commission of Brundtland).	Reexamination of critic matters about the environment.
1987	It's published the Brundtland Report (Our Common Future)	Environment protection and sustainable development. Equity Concept amongst the rich and the poor.
1989	It's created the Latin America Commission of Environment Development	Elaborated a document called "Nossa Própria Agenda", published in 1990 in which was clearly established, the links between the rich, the poor, population and the environment.
1992	First Conference of Earth Cupola, in Rio de Janeiro (Brazil).	Established a proposal and actions called Agenda 21
2002	Second Conference of Earth Cupola in Johannesburg (South Africa) Denominada Rio + 10	It was discussed ways of accomplishing sustainable development, and ways of reduce social inequality

Source: Fogliatti et al. (2011).

The evolution of the environmental movement in Angola

The Angolan population faced a civil war which lasted twenty-seven years (1975

–2002). Because of the war there is a very large economic inequality among its inhabitants. The economic reorganization has provided the emergence of several companies, and cities, especially Luanda (capital), and the remarkable presence of new investment that fosters the local economy. The problem that these investments are not reflected in the education's improvement. There are not enough schools and teachers to meet the demands of society that claims for a quality

education school in Angola. In the processes of teaching and learning most teachers do not have adequate training for the practice of teaching, extensive workload and earn very low salaries. Information from the Angola's Ministry of Education reports that two million children at school age are out of the education system and those who study did not always have pedagogically correct conditions.

The literacy rate of the population is 67.4%, and 82.9% of men and 54.2% women. This has contributed to the country coexists with a Human Development Index that ranks the country among the poorest on the planet earth. The country has nineteen million inhabitants and most live in poor environmental conditions with serious problems of environmental management.

Official data released by the Government of Angola on social networks shows low levels of the conditions of schooling. The data show that in the last decade the human development index has put the country in 148th between the countries of the world. The index contributes to the grim poverty rate with 58.4% of Angolans in poverty and 54.3% of these are extremely poor. Most live with an average of \$ 1.25 per day.

They spend in Education about only 2% of the Gross National Product (GNP). The good side is that about 70% of adults are literate. The life expectancy index is 4.6 (average for 2005-2010). The literacy rate of adults is of 58%, the gross school enrollment index is of 23%, GDP index: USD 5.6 billion, GDP U.S. \$ 114, 343 000 million and income per capita of U.S. \$ 6,412. Only after 1975, when the country became free of Portugal, it is that there was an increase in education indicators. Furthermore, in higher education in Luanda there is a concentration of several universities constituting it the largest university center in the country. The official indicators show an increase of people attending to higher education. However, despite the considerable educational growth in the Capital as compared to other cities, only 20% of the population has safe water and sanitation. It also has the largest concentration of companies in the country which makes the main economic center of Angola. Following below we chronologically present important facts related to the environment in Angola.

Schedule 3: Environment: Chronological Scheme and Referential Marks on Angola's Territory

YEAR	FACT	GOAL
1982	It's created the Angola Environment Association (AAA) which was watched over by the Secretary of Culture's State	Association geared to country's nature protection
1991	Rural and Environment Development Action (ADRA)	Works geared to rural and environment development
1991	Established at Luanda the Ecological Angolan Youth (JEA)	Young – mainly – students concerned about the environment.
1992	It's created the Environment's Secretary State (SEA).	Government body responsible for dealing with environment issues. In 1997 it changed to a Ministry. In 1999 was joined to the Fishing Ministry. In 2002 was created the Ministry of Environment and Urbanism.

1999	1 st National Environment Forum.	Environments Associations role toward the Government.
2000	It's created the Environment Chain Maiombe	The need of gathering efforts for a more cohesive work among the associations and a reciprocal work.

Source: Vladimir Russo. O Papel do Movimento Ambientalista em Angola. On-line.

Vladimir Russo (2011) Association of Angolan Environment, said that the Action for Rural Development and Environment and Ecological Angolan Youth Association were in Rio and 92 are the only organizations in the country that are part of a worldwide association, in this case, the Union World Conservation of Nature (IUCN). He says that in Angola there are several associations caring about the environment. But the aforementioned are those that most stand out because they have spread the thinking environmental sustainability and social responsibility for the various locations of the country. The Constitution of the Angolan Republic, 2010 version, says in Article 39 that everyone has the right to live in a healthy environment.

On June 19, 1998, Angola promulgated Law No. 5/98 - Law of the Environment. In Article 3 of this Law is assured that "All citizens are entitled to live in a healthy environment and the benefits of rational use of natural resources of the country, arising from those obligations to participate in its defense and sustained use, respectively." Whilst in Article 5 of the law, it states that the maintenance of an environment conducive to quality of life, it is necessary to adopt measures that aim, among other things.

Environmental Education

The serious environmental problems that affect humanity are the result of human activities on the environment. The human being in search of better quality of life has caused serious environmental damage to planet earth. Economic growth at any cost has been causing serious impacts environments in natural and cultural environments. The impacts of pollution, deforestation, endangered animals, improper urban occupation, among others, has contributed greatly to the quality of life on the planet worldwide.

Santos & Sato (2001, p. 31) warn about environmentalism emerged in the third millennium with a prospect ambitious marked by social inequalities, impoverishment of the majority and the poor living conditions of the population worldwide. And this confrontation ever took place in the logic of the economy instead of human development, promoting a development model focused on maximizing the productive forces and the slogan of competitive individualism - the best man win - Contributing in this way environmental degradation causing, ecological imbalance in the whole biosphere.

In this scenario there is no doubt that environmental degradation in less developed countries as in Angola is inseparable from a set of processes of social and cultural degradation, marked mainly by adapting technologies inadequate to the natural and cultural environment. And the serious social problems contribute greatly to environmental impacts, which have been generating a culture that steals hope and hinders the reconstruction of societies in the principles of environmental sustainability in a model that is politically correct.

In this perspective, the role of universities, especially environmental education is not an easy task. Several meetings need to be promoted to meet the bond that favors the epistemological paradigms of development with environmental sustainability. And these paradigms are necessarily studies and encounters that reveal the natural and cultural impacts and their consequences on the global scale. We are convinced that the development model that does not anchor the desires of happiness of the population in the social, economic, cultural and environmental frustrate the whole society involved.

The Environmental education for sustainable society necessarily involves the social dimensions of nature and culture. This is because the relationship of nature and culture are fundamental to building any development model that seeks to responsibly include the paradigms of environmental sustainability. However, there is no doubt that education alone will not solve the serious environmental problems of humanity, but it can contribute significantly to the processes of awareness of awareness to change habits and attitudes of aggression to the natural and cultural environments.

The concern for environmental education in recent years has led several nations to rethink their ways of relating to the natural and cultural environments. It is necessary for solutions to be found in the problems that individuals have faced in matters related to natural and cultural environments. But lest we may not be overmatched by serious environmental problems it's important to believe in the processes of formation of various professionals as 'key factor' to soften the environmental crisis of planet Earth. Sato (2002) comments that the scene was internationally from the Tibilisi's Conference in 1977, that environmental education were recognized as a necessity of the humanity to take care of the earth planet's health.

In this way, environmental education conducted with companies in the corporate world to contribute to the development of a society more just, solidarity and responsibly with serious environmental problems. Moreover, in recent times they have adopted a stance toward environmental education is because, somehow, were pressured by society and because, from that, they have become aware that caring for the environment is everyone's job. It is the first important "step" on training and awareness towards the implementation of environmental policy in the company that will become a reality with the construction of an environmental management system. According to Schein (2009), there are several categories used to describe culture. For this, it provides an overview of information on culture.

Schedule : Categories for Describing Culture

Behavior's regularities observed on people's interaction	The used language the customs and traditions that are developed and the rituals that employ in a very plain variety of situations (Goffman, 1959, 1967; Jones, Moore e Snyder, 1998; Trice e Beyer, 1993, 1985; Van Maanem, 1979b).
Groups's Rules	The implicit pattern and values which develop work groups, as the specific rule of a "fair work day for a fair daily payment"

Presented Values	Principles and Value articulated, publicly announced, which the group declares when trying to attain as “product quality” or low price leadership (Deal e Kennedy, 1982,1999)
Formal Philosophy	Plain politics and ideological principles that guide a group`s actions toward stockholders, employees, clients and others stakeholders, as the greatly promoted “HP Way” de Hewlett-Packard (Ouchi, 1981; Pascalle e Athos, 1981; Packard, 1995).
Game`s Rules	Non-written implicit rules, spread all over the organization; “tips” a trainee might have learn to become an accepted member; “the way we do thing around here” (Shein, 1968, 1978; Van Maanen, 1979a, 1979b; Ritti e Funkhouser, 1987).
Workplace	Feeling transmitted in a group through a physic layout and the way the organizations interact amongst each other or other public; Schneider, 1990; Tagiuri e Litwin, 1968).
Natural Skills	Special competences demonstrated for members of a group to perform certain tasks, skills for executing certain activities that goes from one generation to another, without the need of being written-articulated (Argyris e Schon, 1978; Cook e Yanow, 1993; Henderson e Clark, 1990; Peters e Waterman, 1982).
Thinking habits, mental models and linguistic paradigms:	Shared cognitive models of those who guide the perceptions, the thoughts and the language used by the group members and taught to the new member at the beginning of the socialization process (Douglas, 1986; Hofstede, 1001; Van Maanen, 1979b; Senge e outros, 1994).

Source: Organizational culture and leadership (Shein) Page: 12

In this way, the culture is the acquired knowledge and shared by certain groups of individuals. It is from existing elements in the community (behavioral, emotional, and cognitive) that the culture of people is formed. It is the relationship with others that forms the cultural pattern. It goes for any social group, including companies in the corporate world.

Therefore, the environmental education to the sustainable society is necessarily by the comprehension in the nature`s relationship and culture. Thus, when the corporate world understands the paradigms of environmental education, it becomes easier to deal with the serious environmental problems affecting humanity. And the notion of sustainability starts having everything to do with the possibility of creating practices, shaped by the society in dialogues that establish solid relationships between society and its social dynamics.

Environmental Management and ISO

Little (2003) believes that the link between society and the environment has been one of the most important concerns of human beings because it interferes in public policies, in organizations, in society, and especially with regard to the acquisition and production of knowledge to relationships between human nature and culture.

Fogliatti et al. (2011) point out that authors like Viterbo Junior (1998) and Valle (2002) conceptualized environmental management as a "the way an organization manages the

relationships between their activities and the environment that shelter them, observing the expectations of stakeholders" and yet, as the "set of well-defined steps and procedures that, if properly applied, will reduce and control the impacts introduced by a project on the environment." (p.6).

Oliveira (2005) comments that the standard is comprehensive because when it comes to environmental protection, all members of a company participate in it. Furthermore, it can be applied to any organization, regardless of size or industry. He said the standard has a management system comprising the following elements:

1. An environmental policy supported by senior management;
2. Identification of environmental aspects and significant impacts;
3. Identification of legal and other requirements;
4. Establishment of goals and objectives that support the environmental policy;
5. An environmental management program;
6. Definition of roles, responsibilities and authority;
7. Training and knowledge of procedures;
8. Communication process of the environmental management system with all stakeholders;
9. Operational control procedures;
10. Procedures for emergencies;
11. Procedures to monitor and measure operations that have a significant environmental impact;
12. Procedures to correct non-compliance;
13. Procedures for managing records;
14. Auditing program and corrective action;
15. Review procedures by senior management of the system.

Andreoli (2011) comments that the Environmental Management System (EMS) which treats Series ISO 14001, it is essential, precisely so that companies acquire management practices aimed at compelling claims of the market. Thus, the adoption of this system allows them also to acquire quality programs, respecting the environment, so that the companies are at the forefront of environmental certification. Including ISO 14001 is the best known among the standards of the ISO 14000 series.

Social Responsibility and Sustainability

The social responsibility is a way of a corporate world to contribute for improving the quality of human life. In the modern world of business management we can no longer think only of profit without worrying about improving the humanity quality of life.

The interests of local communities, employees, suppliers and the broader consumer market require environmental responsibility in the time to consume the products produced by the corporate world. If on one hand companies increasingly seek profits, on the other hand, they have a much greater social responsibility related to the serious environmental problems that affect humanity.

Credidio (2007) shows that there are several definitions for a business social responsibility. For him, even there is no one definitive meaning, because the concepts related to this topic are in constant evolution and development. The following are some.

Schedule : Definitions: Social Responsibility

Organization	Business Responsibility Definition
Business Action for Citizenship [Brazil]	RSE is the management with compromises and goals which surpass the own-business survival, expanding it to the exercise of the co-responsible agent by the social, politic, and economic in its environmental development.
Social Inversion Business Center [Panamá]	RSE is a corporative philosophy adapted by enterprise high-management to act in benefit of their own employees, families and around the influence areas where it's located.
Mexican Center for Philanthropy [México]	RSE is to entirely fulfill, through all the company's goals in its economic, social and environmental, in the indoor and outdoor environment dimensions.
Chair Amnesty International Business Group [England]	RSE regards the essential conducts of the companies about the responsibility it has by the total impact in the communities it works in.
European Communities Commission	RSE is a corporative philosophy adapted by highly enterprise's direction, to act in benefit of its own workers, families and around the influence area it's located.
The Center for Corporate Citizenship at Boston College [EUA]	RSE refers to the way the company connects basic social values to their daily operational and commercial practice.
CSR Europe	RSE is a concept from which the companies decide to voluntarily contribute, for a better society and a cleaner environment,

Source: Fernando Credidio. The different definitions of a Business social responsibility.

In addition to the definitions explained here, Ashley (2002) shows that social responsibility is a social commitment that the company morally assumes with the construction of a sustainable society. On the other hand, Torquato (1991) warns us that the business world has to go beyond the paradigms of environmental laws and take care permanently of environmental production of products that are available to the consumer market. Within this scenario, when it comes to 'Social Responsibility', the concept is quite complex and has been widespread both in business and in the other sectors of society. So it is important that companies take a strategic social responsibility in managing the environmental system to improve quality of the humanity's life.

For Fogliatti et al. (2001) Sustainable development is a "form of development that meets the necessary needs of the present generation without compromising the ability (or capacity) of future generations to meet theirs." But it is necessary for everyone to do their part in environmental care to the planet earth. E Kraemer (2003) emphasizes that organizations should seek economic, social and environmentally sustainable solutions. If these three criteria are not met, the idea of sustainability does not work. Figure 1, below, presents the three parts of corporate sustainability.

Picture 1: The three Parts of Corporate Sustainability.



Source: KRAEMER, M. E. P. Accounting towards post-modernity: a sustainable future and transparent. 2003.

Romero (1999) already ensures a development model that necessarily involves the development concept dictated by the Club of Rome who believed in sustainability through the relationship between economic growth and environment. Facing the uncertainties of globalization on sustainability, Ferreira and Viola (1996) had indicated in the 90s that the process of globalization and the environment, by its amplitude, suggests that it departs from the particularities. And show that reflection on globalization and the environment reveals that the concept of sustainable development and sustainability are three social dimensions: democracy, equity and efficiency. This is because a sustainable society is one that keeps the stock of natural

capital or rewards it, for developing the technological capital, a reduced depletion of natural capital, thereby allowing the development of future generations.

In this model sustainable development is measured by improved quality of life health, longevity, psychological maturity, education, clean environment, community spirit, creative leisure, among others. Finally, Sachs (2005) warns us that it seems that the idea of the development will not lose its importance in the twenty-first century.

We`ll increasingly need to tackle social inequalities between nations and within the own nations and make it in a way that does not compromise the future of humanity for irreversible climate change.

Therefore, he warns that the "theology of the market ' that makes the head of the defenders of developmental models centered on economic models, may obviate the concept of sustainable development. Thus, it should be the awakening of environmental awareness and understand the concept of sustainable development and sustainability has different ways of understanding, requiring the need to seek a new scientific paradigm that is able to replace the industrialism with social responsibility and environmental management.

TESTING AND PROCEDURES

The research methodology serves as support for obtaining information about a particular phenomenon. It allows us to analyze, test and get results. The research is a perfect strategy for self-knowledge. With it, we have autonomy to structure learning, as it allows us a broader view of the issues about what we want have further insight. Thus, research is, in a sense, a more detailed account because it is based on a set of procedures in search of knowledge.

Nérici (1978, p.15) comments that "method is the coherent set of rational – or practical-rational – procedures that guides the thinking in order to achieve a valid knowledge." Thus, it let us look at something personally and, therefore, more detailed, or creates the possibility of systematic and planned research.

For the development of this research and data collection was conducted a sample as described below: Company Car Nandus; 01 operating management official (responsible for this sector and linked to the sectors of production, storage, production and sales); 01 production management official (responsible for this sector); 01 storage management official (in charge of this sector), 48 employees from different areas of the company.

The data collection instrument used was a straight-answers survey. The survey was applied to identify the perceptions of the audience on environmental issues. For this identification we use both in the first phase (before awareness) and in the second phase (after awareness) the Likert scale. The Likert Scale presents a series of five propositions where the respondent selects one, where it can be: strongly agree, agree, no opinion, disagree, strongly disagree. After, a quoting is made of responses consecutively ranging: +2, +1, 0, -1, -2, or by using scores 1 to 5.

Another survey instrument used in this study was the environmental education as a tool for environmental management to inform and raise awareness among a sample of employees of the company, since they had not had an environmental awareness initiative within the company

yet. The method used for the preparation of environmental awareness for employees was the "Diagnostic Troubleshooting". It is a simple method, to be understood and executed. The method can be divided into 13 steps (adapted from Carvalho, 1998).

This method suffered an adaptation to the cultural reality of the Angolan company to facilitate group dynamics in the sample that participated in the study and served as the basis for both awareness made for direction as to the sensitize made to other employees of the sample. The data were collected with questionnaires that were answered with the help of instructors (accompanied by graduate student) that explained the correct fulfilling form and Brazilian Portuguese terms in order to reduce errors in the response of the same that could be caused by lack of understanding language and in this country some terms differ Brazilian Portuguese and misinterpretations of questionnaires.

The questionnaires were administered before and after sensitize. Antes environmental awareness questionnaire was applied to 51 employees, with three directors of 48 employees. After the environmental awareness, 4 employees participated in the direction: 1 direction operating officer (responsible for this sector and linked to the sectors of production, storage and maintenance, production and sales), one employee toward the production and maintenance (responsible for these sectors), one employee toward storage (in charge of this sector) and technical production.

In environmental awareness previously conducted with the employees, 48 officials, from different sectors of the company, participated, among them the operations director, production manager, director of storage and maintenance and a master. It's been conducted a informative awareness, with group's dynamic techniques, concerned with local reality and reutilization course on some company's waste that are produced.

After the environmental awareness, it was applied a questionnaire with direction, being 1 operational management official (responsible for this sector and linked to the sectors of production, storage, production and sales); 1 directing production employee (responsible for this sector); 1 storage management employee (in charge of this sector); other 48 officials from different areas of the company has attended. The questionnaires applied before the awareness and after the awareness were the same and have been also applied to the same sample.

We used the following steps in the use of methodological tools:

1. Questionnaire
2. Structuring of theoretical and practical;
3. Development and implementation;
4. Collection of results;
5. Tabulation and construction of tables;
6. Inserting the results Minitab;
7. Option for statistic descriptive Anderson- Darling Norm ability test in mini tablet;
8. Obtaining graphics;
9. Comparison of data before and after awareness.

Within this context, the structuring of the research within the objectives presented were developed visits in the company to carry out the environmental awareness; Study and schedule analysis of topics to the company's interest to be applied in awareness with employees in accordance with the cultural reality. For the questionnaire's development to be applied before and after the awareness was trying to answer employee opinion on the following issues: conduct of working, environmental education, environmental issues and cultural awareness. In the tabulation's analysis results the data was used a Minitab that helped in the responses' analysis. The method used for the realization of the environmental awareness has been divided into stages (adapted from Carvalho, 1998): First it was carried out a general action plan where it was worked with the company's general direction an assessment of participants' perceptions regarding local environmental problems. For this evaluation it was applied a questionnaire before the environmental awareness through a dynamic group that helped in the degree evaluating member's perception in relation to the environmental problems. Then it was performed a diagnosis, pointing a list of the identified problems, where members listed the environmental problems. Then it was chosen the greater relevance. The criterion to select the situation problem was the seriousness of the environmental problem. In this regard were chosen the most frequent theme mentioned in the awareness processes. To solve the problems were divided three groups, each group containing 16 people to seek information for the issues questioned. Two groups were formed with ordinary employees. A group was formed with directors of the following areas: operations, production, storage and maintenance. In the context of the problems was chosen a leader in each group to coordinate and contextualize the discussion in the groups.

As identification results there were a test made of potential solutions by each lead in each group. At resolutions of the environmental problems there was a criterions' definition to choose the solutions to be implemented. After an elaboration of a plan's action to be worked in the company. At the end there was evaluation of the development process of the actions and results, each group developed its action and presented to the other groups.

RESULTS AND DISCUSSION

It is divided into three topics following the chronological development of the survey results:

- 1) Before the environmental awareness Questionnaire.
- 2) Environmental awareness: Formation and Dynamics.
- 3) After the environmental awareness :

The questionnaire administered before and after the environmental awareness environmental awareness contains 32 questions and it is divided into four parts : Part I: Conducting work ; Part II : Environmental education ; Part III : Environmental Problems , Part IV : Awareness . Each question has the options: SA (5) = Strongly Agree , A (4) = agree , NO (3) = No Opinion , D (2) = Disagree , SD (1) = Strongly Disagree .

Before the Environmental Awareness

In step before the environmental awareness it was developed a questionnaire according to the cultural reality of the company and applied to 43 % (N = 51 employees) of this company's employees involving the direction and its different sectors.

Part I: Conduct of work Question 1, it is the responsibility of every employee in the company. And the result is the average over the importance of knowledge of each employee's responsibilities in the company is 4.33, with a confidence interval of 95 % between 4.2 and 4.5. The standard deviation is 0.47 with a confidence interval defined between 0.39 and 0.59. 33% of the sample totally agreed.

Question 2, it deals with procedures in the company to receive, document and challenge the external and internal communications. And the average over the company known procedures for receiving, documenting and challenging the external and internal communications is 4.19, with a confidence interval of 95 % between 4.08 and 4.30. The standard deviation is 0.40 with a confidence interval defined between 0.33 and 0.49. 20% of the sample totally agreed with this question.

In Question 3, the average over the training that helps in the improving work performed is of 4.29, with a confidence interval of 95 % between 4.13 and 4.45. The standard deviation is 0.57 with a confidence interval defined between 0.48 and 0.71. 33 % of the sample strongly agreed with this question. In Question 4, the average over the training only brings costs for the company is 2.04, with a confidence interval of 95 % between 1.84 and 2.23. The standard deviation is 0.69 with a confidence interval defined between 0.58 and 0.86. 8 % of the sample had the option in the opinion agreement. 14% of the sample totally disagreed.

In Question 5, the average over the maintenance of the company's equipment it should be periodic is 4.14, with a confidence interval of 95 % between 3.99 and 4.27. The standard deviation is 0.49 with a confidence interval defined between 0.41 and 0.61. 80% of the sample had the option in the opinion agreement. 18 % of the sample totally agreed. And in Question 6, the average over to worry about the equipments only when they break is 2.17, with a confidence interval of 95 % between 1.91 and 2.44. The standard deviation is 0.93 with a confidence interval set between 0.78 and 1.16. 18 % of the sample totally disagreed. And in the Question 7, it shows that the average over the generator's noise, it can cause health problems is 3.92, with a confidence interval of 95% between 3.64 and 4.20. The standard deviation is 0.99 with a confidence interval defined between 0.83 and 1.24. 20% of the sample totally agreed.

Part II: Environmental education

In Question 8, it is noticed that the average for natural resources affirming that these last forever is 2.55, with a confidence interval of 95 % between 2.22 and 2.87. The standard deviation is 1.15 with a confidence interval defined between 0.96 and 1.43. 8 % of the sample totally disagreed. For Question 9, the average over the affirming that the environment and quality of life are closely related is 3.54, with a confidence interval of 95 % between 3.26 and 3.83. The standard deviation is 1.00 with a confidence interval defined between 0.84 and 1.25. 18 % of the sample totally agreed. 23 % of the sample did not know what to say about it or who did not know the term quality of life or do not understand the relationship of the environment to the quality of life. In Question 10, the average over the affirmative – I can contribute with the environment in the company is 4.09 with a confidence interval of 95 % between 3.95 and 4.24. The standard deviation is 0.50 with a confidence interval defined between 0.41 and 0.62. In spite of most of

them agree (80 %) with the statement, only 16 % of the sample strongly agreed. And in Question 11, the average over the affirmative - I spend a lot of water and light, it will last forever. It is of 2.07 with a confidence interval of 95 % between 1.76 and 2.39. The standard deviation is 1.11 with a confidence interval defined between 0.92 and 1.38. 35 % totally disagreed with this affirmative. And in the Question 12, the average over the affirmative - Garbage is a problem for everyone that works in the company is of 4.03 with a confidence interval of 95 % between 3.92 and 4.15. The standard deviation is 0.39 with a confidence interval defined between 0:33 and 0.49. 8% of the members strongly agreed.

The Question 13, it shows the average over the affirmative - Garbage is the company problem, not mine is of 2.41 with a confidence interval of 95 % between 2.06 and 2.76. The standard deviation is 1.25 with a confidence interval defined between 1.04 and 1.55. 17 % of participants totally disagreed. And in Question 14, it has been the average over the affirmative – The Cleaner production is concerned only in reducing the risks for the environment is of 3.15 with a confidence interval of 95 % between 2.92 and 3, 39. The standard deviation is 0.83 with a confidence interval defined between 0.69 and 1.03. The percentage of participants who had no knowledge of this subject was 35 %, so they didn't give their opinion.

For Question 15, the average over the affirmative - The lack of information makes me do not care about environmental issues in the company is of 3.27 with a confidence interval of 95% between 2.97 and 3.57. The standard deviation is 1.05 with a confidence interval defined between 0.88 and 1.31. 39 % disagreed and 55 % agreed.

In Question 16, the average over the affirmative – the cleaner production adopts a precautionary approach - is 3.47 with a confidence interval of 95 % between 3.28 and 3.66. The standard deviation is 0.67 with a confidence interval defined between 0.56 and 0.83. 39 % of the members disagreed with this affirmative. Although most of them agree (51 %), 39% of the participants had never heard about the theme and because of this didn't give their opinion. And in Question 17, it shows the average over the affirmative - Good techniques in environmental management contribute to new behaviors in the company – it is of 3.98 with a confidence interval of 95 % between 3.81 and 4, 14. The standard deviation is 0.58 with a confidence interval defined between 0.48 and 0.72. Although most of them agree (67 %) with the affirmative, 17 % of the members didn't have any opinion about this topic, because they had never heard. In Question 18, we have the average over the affirmative - Good techniques in environmental management contribute to new behaviors within the company - it is 3.96 with a confidence interval of 95 % between 3.88 and 4.03. The standard deviation is 0.28 with a confidence interval defined between 0.23 and 0.34. 2 % strongly agreed. And for the Question 19, you realize that the average over the affirmative - Reusing the garbage is a way to contribute to a sustainable development - it is 3.58 with a confidence interval of 95 % between 3.31 and 3.85. The standard deviation is 0.96 with a confidence interval defined between 0.80 and 1.19. Although 70 % agree with this affirmative, 16% disagreed with this affirmative. And in Question 20, the average over the affirmative - Every company needs to review their management techniques and procedures for environmental improvement – it is 3.94 with a confidence interval of 95% between 3.82 and 4.05. The standard deviation is 0.42 with a confidence interval defined between 0.35 and 0.52. 82 % of the members agreed with this question while 12% did not know enough about the subject to give their opinion.

Part III: Environmental Issues

A priori in Question 21, the average over the affirmative - It is easy to identify environmental problems in the area where I work – it is 3.70 with a confidence interval of 95 % between 3.46 and 3.94 and 4.05. The standard deviation is 0.85 with a confidence interval defined between 0.71 and 1.06. 14 % disagreed with this affirmative. And to Question 22, the average over affirmative - I need to save natural resources (water, raw materials, energy) to live now and in the future – it is 4.37 with a confidence interval of 95 % between 4.22 and 4.52. The standard deviation is 0.52 with a confidence interval set between 0.44 and 0.65. 39 % strongly agreed with this statement.

We have in Question 23, the average over the affirmative - It is important that it is done the proper treatment for water and sewage in the company – it is 4.17 with a confidence interval of 95 % between 4.02 and 4.33. The standard deviation is 0.55 with a confidence interval set between 0.46 and 0.69. 23 % strongly agreed with this affirmative. And in Question 24, the average over the affirmative - The generator is the only source of energy when I have no energy from the grid – it is 3.25 with a confidence interval of 95% between 2.89 and 3.61. The standard deviation is 1.29 with a confidence interval defined between 1.08 and 1.60. Only 8% disagreed completely. And to the Question 25, it showed that average over the affirmative – The garbage can contaminate the waters and kill – it is 4.27 with a confidence interval of 95% between 4.14 and 4.40. The standard deviation is 0.45 with a confidence interval defined between 0.37 and 0.56. 27% strongly agreed.

In Question 26, it is noticed that the average over the affirmative – The garbage can cause serious illness – it is 4.66 with a confidence interval of 95 % between 4.53 and 4.80. The standard deviation is 0.47 with a confidence interval defined between 0.39 and 0.59. 67 % strongly agreed. And in the Question 27, we have the average over the affirmative - it is important to share the industrial and the domestic garbage – it is 4.05 with a confidence interval of 95 % from 3.89 to 4.22. The standard deviation is 0.58 with a confidence interval defined between 0.48 and 0.72. 16 % strongly agreed.

Part IV: Awareness

Initially, in Question 28, the average over the affirmative - It is important to incorporate new technologies in the company's production process – it is 3.82 with a confidence interval of 95 % between 3.68 and 3.95. The standard deviation is 0.47 with a confidence interval defined between 0.39 and 0.59. 2% strongly agreed.

It is noticed that in Question 29, the average over the affirmative – it was encouraged to change their behavior in relation to environmental issues in the company it is 3.21 with a confidence interval of 95 % between 2.87 and 3, 55. The standard deviation is 1.20 with a confidence interval defined between 1.00 and 1, 49. 0% strongly agreed.

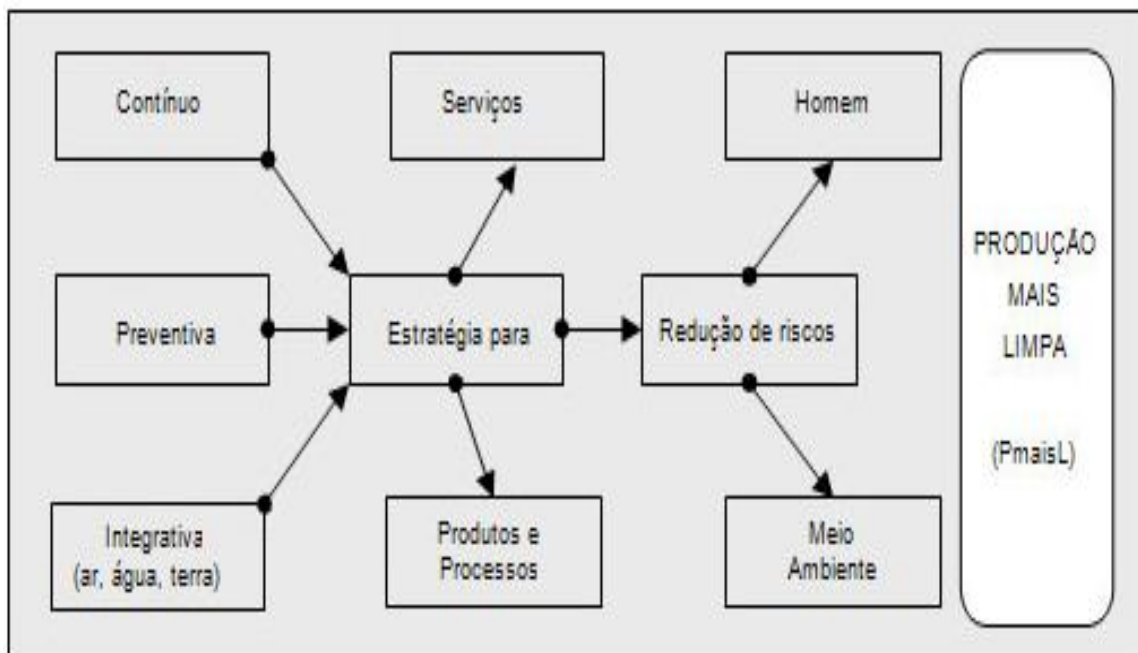
In this way , in Question 30, the average over the affirmative - The employee with some kind of award / recognition would be more effective with environmental issues in the enterprise - is 3.70 with a confidence interval of 95 % between 3.37 and 4.04 . The standard deviation is 1.18 with a confidence interval set between 0.99 and 1, 47. 30% strongly agreed. Finally, in Question 31, it shows the average over the affirmative - It is important to comply with the Angola's environmental legislation – it is 3.88 with a confidence interval of 95 % between 3.73 and 4.02. The standard deviation is 0.51 with a confidence interval set between 0.43 and

0.64. 8% strongly agreed. The average over the affirmative – You change the behavior when you have more information. – It is 4.29 with a confidence interval of 95 % between 4.13 and 4.45. The standard deviation is 0.57 with a confidence interval set between 0.48 and 0.71. 33 % strongly agreed.

Environmental Awareness

For the company X's Direction, it was made in conjunction with the company's general direction a study of an environmental issues of the greatest relevance to the cultural reality of it to be developed in the direction toward environmental awareness. The theme of the training was focused on cleaner production taking in mind that the questionnaire showed before the awareness had significant percentage of members who had never heard about this issue and also why it is the company's concern to reduce its garbage, because the company has the production of some products and the employees' accommodation in its perimeter. The training was based on the main idea of cleaner production as follows: Continuous application of a technical strategy , integrated economic and environmental processes , products and services in order to increase efficiency in the use of raw materials , water and energy , not by generation , minimization and recycling of the garbage and environmental benefits emissions, occupational health and economic;The Cleaner Production , with its essential elements (see Figure 2 below) adopts a precautionary approach in response to the financial liability brought by the additional costs of pollution control and treatment of " end of pipe " (end of the production process , where you have the product and the garbage generated) .

Picture 2: Essential Elements of a Cleaner Production Strategy.



Source: Unido/UNEP, 1995

The participants were divided into three groups. And each group chose a leader

to represent them and also chose a name for the group related to the environment. After the choice of the leader and the name, each group made a list of the main environmental problems identified in the workplace. The leader of each group chose the theme most voted, this issue was debated within each group, where they had to search information to contextualize the problem. After the problem contextualized each group searched for possible solutions and proposed an action plan, as the photo below. When all groups completed the proposed work, the leader of each group presented to the other groups: the group's name, the problem to be discussed, possible solutions and a proposal for an action plan, as the photo below.

The three groups discussed the amount of garbage produced by the company in many ways, both in production as cafeteria and accommodation. In the production there were proposals as in the preventive section as at the end of the production "end of pipe" where there was the product generated plus wastes. In the preventive part one of them was investment in the stocks' management to avoid miss raw material. Throughout the process avoid spills and waste, to do so they proposed more training in work processes. At the end of the production when the product is ready and already generated residue, they proposed the oil's reuse in the soap's production in large-scale and reuse the múcua's gum (a typical region fruit) used in the production of its products to produce handcrafted items and fertilizer.

In the cafeteria the main focus was the organic waste separation from the others for reuse in the fertilizer's preparation and vegetable gardens' construction to help decreasing the costs with vegetables. In the accommodation they proposed the separation of the kitchen's waste to utilize the fertilizer and the cooking oil to join with the company production and produce soap. Around the houses make vegetable gardens for their own consumption.

After the group leaders finalize the presentation all participants were invited to visit the cafeteria's kitchen and it was shown by a cafeteria's employee how to separate the garbage properly in order to be used as fertilizer. Finally with the fertilizer already made they visited the garden, where another employee showed that these actions can be extended to each house, each neighbors, their children, their children's friends in order to multiply throughout the society and finally all the participants gathered for a photo knowing the homework when it comes to the environment is continuous and that the actions must continue.

In the next step to the environmental awareness was developed questionnaire according to the company's cultural reality and applied to 43 % (N = 51 employees) of this company's employees involving the direction and its different sectors and it was made an interview directing many sectors (maintenance, production, storage and operations).

Questionnaire: Direction / Staff

In the analysis of Part I: Conducting the studies , it was found that before the environmental awareness the average over the affirmative – Knowing the function and the responsibility of each within the company is important – it was 4.3 with a standard deviation of 0.47 . After the awareness the average centered in 5 with a standard deviation of 0.14. Before the awareness 33 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed. In the comments of question 2: Before the environmental awareness the average over the affirmative - Knowing the function and responsibility of each within the company is important – it was 4.19 with a standard deviation of 0.40, after the awareness the average centered in 5 with a

standard deviation of 0.19. Before the awareness 20 % strongly agreed with the affirmative. After the awareness 96.1 % strongly agreed.

In the comments of question 3 : Before the environmental awareness the average over the affirmative - The training helps to improve the performance in the executed job – it was 4.29 with a standard deviation of 0.57 , after the awareness the average centered in 5 with standard deviation of 0.14. Before the awareness 33 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed. And to the question 4 :: Before the environmental awareness the average over the affirmative - Training only brings costs to the company – it was 2 with standard deviation of 0.69 , after the awareness the average centered in 1.2 with a standard deviation of 0.42. Before the awareness 14 % totally disagreed with the affirmative. After the awareness 76.5 % disagreed completely.

For the question 5 : Before the environmental awareness the average over the affirmative - The equipment's maintenance in the company should be periodic – it was 4.13 with a standard deviation of 0.49 , after the awareness the average centered in 4.88 with a standard deviation of 0.32. Before the awareness 18 % strongly agreed with the affirmative. After the awareness 88.2 % strongly agreed. And in the question 6: Before the environmental awareness the average over the affirmative – I should worry with the equipment only when they break. – it was 2.17 with a standard deviation of 0.93 , after the awareness the average centered in 1.07 with a standard deviation of 0.27 . Before the awareness 18 % totally disagreed with the affirmative. After the awareness 92.2 % disagreed completely. And in the question 7: Before the environmental awareness the average over the affirmative -The generator noise can cause health problems. - it was 3.92 with a standard deviation of 0.99 , after the awareness the average centered in 5 with a standard deviation of 0.14 . Before the awareness 20 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

Part II: Environmental education

In the question 8: Before the environmental awareness the average over the affirmative - Natural resources last forever. – it was 2.54 with a standard deviation of 1.15 . After the awareness the average centered in 1.01 with a standard deviation of 0.14. Before the awareness 8 % totally disagreed with the affirmative. After the awareness 98 % totally disagreed. And in the question 9: Before the environmental awareness the average over the affirmative - The environment and life's quality are strongly related to each other. – it was 3.54 with a standard deviation of 1.00 . After the awareness the average centered in 5 with a standard deviation of 0.14. Before the awareness 18 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

In the question 10: Before the environmental awareness the average over the affirmative- I can contribute with the environment in the company - it was 4.90 with a standard deviation of 0.50. After the awareness the average centered in 5 with a standard deviation of 0.14. Before the awareness 16 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed. And the question 11: Before the environmental awareness the average over the affirmative - I can spend a lot of water and light, because they will last forever – it was 2.07 with a standard deviation of 1.11. After the awareness the average centered in 1.03 with a standard deviation of 0.19. Before the awareness 35 % totally disagreed with the affirmative. After the awareness 96.1 % disagreed completely.

In the question 12: Before the environmental awareness the average over the affirmative – The garbage is everyone's problem that works in the company – it was 4.03 with a standard deviation of 0.39. After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 8 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed. And in the question 13: Before the environmental awareness the average over the affirmative – The garbage is the company's problem and not mine – it was 2.41 with a standard deviation of 1.25. After the awareness the average centered in 1.03 with a standard deviation of 0.19. Before the awareness 17 % totally disagreed with the affirmative. After the awareness 96.1 % disagreed completely.

In the question 14 : Before the environmental awareness the average over the affirmative – The cleaner production is concerned only in reducing only the risks related to environmental questions – it was 3.15 with a standard deviation of 0.83 . After the awareness the average centered in 1.21 with a standard deviation of 0.41. Before the awareness 2 % totally disagreed with the affirmative. After the awareness 78.4 totally disagreed. And in the question 15 : Before the environmental awareness the average over the affirmative - The lack of information makes me not care about environmental questions in the company – it was 3.27 with a standard deviation of 1.06 . After the awareness the average centered on 4.98 with a standard deviation of 0.14. Before the awareness 6 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

Comment from the question 16: Before the environmental awareness the average over the affirmative – The cleaner production adopts a preventive approach – it was 3.47 with a standard deviation of 0.67. After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 2 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

Comment from the question 18: Before the environmental awareness the average over the affirmative – All the employees should seek to act in a sustainable way – it was 3.96 with a standard deviation of 0.28. After the awareness the average centered on 4.98 with a standard deviation of 0.14. Before the awareness 2 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

Comment from the question 19: Before the environmental awareness the average over the affirmative – Reusing the garbage is one way to contribute for a sustainable development - it was 3.58 with a standard deviation of 0.96. After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 6 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

Comment from the question 20: Before the environmental awareness the average over the affirmative – All the company needs to review periodically their technical management and procedures for an environmental improvement – it was 3.94 with a standard deviation of 0.42. After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 6 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

Part III: Environmental problems

Comment from the question 21: Before the environmental awareness the average over the affirmative – I know to identified environmental problems in the area that I work- it was 3,

70 with a standard deviation of 0, 85. After the awareness the average centered in 4, 98 with a standard deviation of 0,14. Before the awareness 12% strongly agreed with the affirmative. After the awareness 98% strongly agreed.

Comment from the question 22: Before the environmental awareness the average over the affirmative – I need to economize natural resources (water, raw-material, energy) to live today and in the future – it was of 4,37 with a standard deviation of 0,52. After the awareness the average centered in 4, 98 with a standard deviation of 0, 14. Before the awareness 39% strongly agreed with the affirmative. After the awareness 98% strongly agreed.

Comment from the question 23: Before the environmental awareness the average over the affirmative - It's important to be done an appropriate treatment for the water and sewage in the company – it was 4, 17 with a standard deviation of 0, 55. After the awareness the average centered in 4, 98 with a standard deviation of 0, 14. Before de awareness 23% strongly agreed with the affirmative. After the awareness 98% strongly agreed.

Comment from the question 24: Before the environmental awareness the average over the affirmative -The generator is the only energy source of energy when I don't have the mains power – it was 3.25 with a standard deviation of 1.29. After the awareness the average centered on 1.03 with a standard deviation of 0.19. Before the awareness 8 % totally disagreed with the affirmative. After the awareness 96.1 % disagreed completely.

Comment from the question 25: Before the environmental awareness the average over the affirmative –The garbage can contaminate waters and kill - it was 4.27 with a standard deviation of 0.45. After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 27 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

Comment from the question 26: Before the environmental awareness the average over the affirmative – The garbage can cause serious illness – it was 4.66 with a standard deviation of 0.47. After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 67 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

Comment from the question 27: Before the environmental awareness the average over the affirmative - It is important to separate the industrial and the domestic garbage – it was 4.05 with a standard deviation of 0.58. After the awareness the average centered on 4.98 with a standard deviation of 0.14. Before the awareness 16% strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

Part IV: Awareness

In the comments from the question 28, it is clear that before the environmental awareness the average over the affirmative - It is important to incorporate new technologies in the company's process production – it was 3.82 with a standard deviation of 0.47. After the awareness the average centered in 4.09 with a standard deviation of 0.30. Before the awareness 2 % strongly agreed with the affirmative. After the awareness 9.8% strongly agreed.

And for the question 29 comment, it was noticed that before the environmental awareness the average over the affirmative – it was encouraged to change their environmental

behavior in the company – it was 3.21 with a standard deviation of 1.20. After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 0 % strongly agreed with the affirmative. After the awareness 98% strongly agreed. And from the question 30, it is shown that before the environmental awareness the average over the affirmative - The employee with some kind of award / recognition is more effective with environmental questions in the company – it was 3.70 with a standard deviation of 1.18. After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 30% strongly agreed with the affirmative. After the awareness 98 % strongly agreed.

And to comment the question 31, it shows that before the environmental awareness the average over the affirmative - It is important to comply with the Angola's environmental legislation – it was 3.88 with a standard deviation of 0.51. After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 8 % strongly agreed with the affirmative. After the awareness 98 % strongly agreed. Finally, in the comment from the question 32, we have that before environmental awareness the average over the affirmative - Changing the behavior when you have more information. – it was 4.29 with a standard deviation of 0.57 . After the awareness the average centered in 4.98 with a standard deviation of 0.14. Before the awareness 33 % strongly agreed with the affirmative. After the awareness 98% strongly agreed.

FINAL REMARKS

From the company's interest in deploying an environmental management system, it tried to involve all employees so that the success was achieved. It is known that the education, in general, it is lacking in Africa. So, aware of this reality, the company scientificized their employees, in order to awareness them for a sustainable development.

With this, products, until then, unsuitable and that, moreover , polluted the environment now have another purpose (e g , oil that was once thrown into company's landfill, it is now reused in the soap's manufacture, leftovers served for the organic fertilizer's manufacturing, múcua's gum turned on in hand-crafted products and fertilizers) . With this, the environment became more preserved; products have become reusable and the staff, turned into environmental multipliers.

During a visit made before Christmas in some employees' home it was noted that some of them had made a Christmas wreath with the múcua's reject and it was also observed reused plastic bottles as small gardens, in other words the true awareness it is when employees become multipliers, go acting in a sustainable way not only in the company but also outside it.

And with the environmental management system, the Nandus Car's employees in possession of their responsibilities to the company and to the environment, understood that natural resources can be finite and that the quality of life of each it is linked to the environmental questions. Therefore, taking into account the sustainability is to think of a better life for all individuals. Here are some considerations before environmental awareness, in the environmental awareness and after the environmental awareness:

Before the Environmental Awareness

- **Conducting the Works:** There wasn't a designed process of the major activities for key employees so that the new employees who entered in the company take knowledge. Conflicts' existence by management failure.
- **Environmental education:** 25 % of the employees believed that natural resources would last forever, in other words, with this the company's waste in water and others was great.
- **Environmental Problems:** The worst concern the garbage, but how to contribute?
- **Awareness:** Little sensitized.

Environmental Awareness

The key point of the training was to develop a methodology so that the direction, in other words, where the company's leaders participate together in the starting point, such as, the most major problem for the company, because the change's targets must believe that the organization will be better if you learn the new way of thinking and working, this vision must be articulated and widely assumed by senior management.

- **Training direction:** There was the director's involvement it was redesigned an organization chart and then focused on the production sector so that all helped in the flowchart's designing in this sector, all other directors designed the working process of their sectors according to the MES (Management Environmental System) an Angolan reality. It was recommended the transfer of this document after approval for the leaders' sectors to spread the knowledge of all employees in the area.
- **Staff Training:** How the new way of working requires new knowledge and new skills, employees received formal and informal training and the most interesting point was the great participants' involvement, the interest and the willingness to learn more. They proposed changes, planned real actions to work as a team in this company. There was a big shock on the part of the participants in the water's dynamics performed to realize the amount of water available for consumption in the world and what will happen if we do not change our behavior. It was recommended to implement some of the solutions proposed by the staff.

After the Environmental Awareness

Conducting of Works: The main processes activities were designed, approved and implemented, significant reduction of conflicts and improvement in the management system.

- **Environmental Education:** the percentage of 25 % who believed that natural resources would last forever was reduced to 0 %. It has been planned actions to reduce the use of raw materials for production by the own employees, both within the company as in their residence. As some ideas proposed by these employees were approved they felt more motivated at work and started missing less.
- **Environmental Problems:** They saw that there are many environmental problems, but now they know how in a simple way to reduce these impacts. The area before that was destined for the company's garbage, now it's being remodeled for the staff's recreation

and a large vegetable garden for them so that the employees were willing to help themselves.

- Awareness: They are very touched and it indicates that the awareness was satisfactory in general, but it is clear that the time for awareness was too short. It was the first environmental awareness in this company so that work needs to continue, because when it comes to environmental education has to be in mind the continuity.

So, with that organizational habit change and the company's building vision about the environment, it passed to have less costs, the employees are working as a team, they are having a better performance at work, the environment has become more respected and with this the society, in general, it had benefits in the conservation and preservation of the environment's aegis because the company produced less waste through the actions and strategies described above.

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Translation for Picture 2:

Continuo	Service	Man	cleaner production
Preventive	Strategy to	Reducing risk	

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