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**ISSUES AND CHALLENGES OF ENVIRONMENTAL MANAGEMENT  
OF LOCAL AUTHORITIES IN MOROCCO: CASE OF THE CITY OF  
TANGIER**

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### **Abstract**

The environmental problems are worsening day by day in all the sectors of human activities and on various territorial scales, and the diagnosis and analyses carried out in this area underline its gravity in Morocco.

The objective of this research is to identify the main laws and regulations that govern the environment on the Moroccan territory, to identify the theoretical framework of the theme in question, in order to analyze the environmental situation in Moroccan context.

Having taken the territory of Tangier as support, our research aims more specifically to identify the role of local authorities to protect the environment.

The results of our investigations emphasize that, certainly, the creditable efforts are provided, but the principal obstacle remains the absence of the conscience of durable with respect to the environmental fact.

**Keywords:** Environment, environmental management, Tangier.

### **Introduction**

Certainly, the importance of the environment was formerly only a question of mode which disappeared well quickly from the daily preoccupations, but it is obviously not the case today. The environmental question became impossible to circumvent at all the political levels and all the social actors.

However, the environmental crisis which prevails today not only in Western countries but indeed in the whole world has particularly challenged in a very particular way the communities which are in the center of the socioeconomic organization of the associated modern societies. In answer to the speeches on sustainable development, the eco-development, the natural resource management and the respect of the environment, the communes have gradually mobilized and started to obtain codes of ethical and environmental practices.

Thus the public authorities have insisted on the educational promotion of the environment in order to preserve the natural heritage of the country and to ensure an integrated and sustainable development of all regions of the Kingdom to encourage Morocco to begin in a vast project of sustainable development, perceived on several levels. The objective is to adopt a reliable strategy for sustainable development supporting balances between environmental, economic and social dimensions in order to improve the living environment of citizens, to reinforce the sustainable of natural management resources to promote respectful economic activities of the environment.

Therefore, the state plans to return five cities of the kingdom a metropolitan cities, the city of Tangiers included. So, the Tangier Metropolis project aims anticipating and preparing the city of Detroit to consolidate its dimension in the fields of culture, industry and business.

It should well be noted that Tangier is particularly concerned by the problem of degradation of the environment. On the one hand, its socio-economic dynamism has had significant impacts on the capital ecological and environmental of the city, linked in particular to a deficiency safe guarding protection of the natural resources, and, on the other hand, the Project Tangier metropolis which is in perspective, will undoubtedly enable this city to gain an honorable place among major international cities. It is thus conceived to be an unprecedented urban model in Morocco. However, one could put the following question: What about awareness of the importance of the environment according to the spirit of the city's municipal strategic decision?

Recall that Morocco, which has made the choice of decentralization, is thus engaged in the prerogatives of environmental upgrading, which raise within the competence of Local agencies according to the communal charter. Nevertheless, the transfer of competences to local communities has not supplied with a transfer of sufficient resources to enable them to ensure a rational and sustainable management of the local environment.

It should be said that one must recognize that the environment is not a constraint, but a tremendous lever for development. However, with measurement of the economic and social development of the city of Detroit knew, there is little respect and awareness of the environment.

By grasping the problem in the above terms, we estimate to contribute to research in this area. Indeed, the near total of the investigations which were led in Morocco have privileged the technical or legal dimension of the environmental fact. Our research attempts to associate the attitude and behavior of the actors.

Beyond the scientific relevance of our research, we deliberately wanted it to be finalized by delivering to managers responsible for managing the environment "receipts" that would ensure an ideal mix between economic progress and economic growth awareness of sustainability.

With a qualitative and comprehensive aiming, our research adopts the unique case study as approach. It is the city of Tangier.

The articulation between the context of the research, our questioning, our methodology and the ambitions of the research leads us to opt for the following structuring.

In the first place, we will examine how the inscription of the conscience of sustainable mid-way between the regulation and the managerial requirement reconfigured the environmental dimension by passing it from the national scale to the local scale, on the one hand and, on the other hand, by transforming it from a mere passing fad to a real speech.

In a second place, we will examine the prospects of awakening of the environmental dimension in the Tangier context after taking stock of the state of play and the challenges to take up.

## **1- Environmental awareness: of the regulatory framework to the managerial imperative**

In fact, progress has been noticed on the institutional plans, regulatory, technical and incentives, to provide the country of tools for the management of the environment, but the ecological imperatives related to the socio-economic development require the substantial strengthening of actions undertaken at different territorial scales, order well curative and preventive in the framework of a stable approach and integrated.

### **1.1- The environmental dimension: from national to local**

Morocco, following the example of much of countries aware of the role of the environment made many international commitments to the protection of the environmental by adopting certain international resolutions (resolutions of the Summits of the Rio 1992 and Johannesburg in 2002, in particular), by ratifying certain protocols and conventions and by entering into free trade agreements<sup>1</sup>. The non-observance of those commitments is not only likely to seriously affect its capital credibility on the international plan, but also to compromise the opportunities offered by the external markets to its products, particularly industrial. It has also taken the decision to transpose the principles of these conventions and agreements into its legislation.

In spite of the already important number of texts gaining its elf with the environmental protection of the which it has, Morocco obtained since the end of the last century with legislative and regulatory texts reinforcing the preservation of the environment on the one hand and, on the other hand, to endorse and devote its commitments. The main constitutive texts of this new arsenal are<sup>2</sup>:

- The Law n°11-03 relating the production and enhancement of the environment
- The Law n°12-03 relating environmental impact studies
- The Law n°10-95 relating water
- The Law No. 13-03 relating the fight against air pollution
- The Law n°. 28-00 relating the waste Management and their disposal
- The Law n°81.12 relating the coastline.

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<sup>1</sup> GIZ. (2011). Forum pour l'application des Lois Environnementales, (FORALE).

<sup>2</sup> Ministère délégué auprès du Ministre de l'Énergie, des Mines, de l'eau et de l'environnement en partenariat avec GIZ. (2014). Lois relatives à l'environnement et au développement durable.

There is also :

- The Decree of 2 December 2005 on the control of seafoods and fresh water products from the point of view of hygiene and quality
- The Decree N° 2-05-1533 on autonomous sanitation
- The Decree N°2-07-253 on the classification of waste and the list of hazardous wastes
- The Decree on the management of medical and pharmaceutical waste
- The Decree on Technical Requirements and Administrative Procedures applicable to Controlled Landfills
- The Decree on Air Quality Standards.

Other projects of laws and regulations are in the course of adoption, in the occurrence:

- The draft law n°13.09 relating to renewable energies
- The bill relating to energy efficiency
- The draft of the Law on Protected Areas
- The draft law on the Protection of Species of Wild Fauna and Flora
- The draft decree on the general emission limit values of gaseous emissions
- The draft decree relating to transboundary movements of waste

In spite of these notable advances, the legal arsenal National Environmental to this day remains incomplete. Several areas are either insufficiently or not at all regulated. It is essentially in the areas of soil, noise, classified establishments, quarries, the right to environmental information, etc

In addition, the implementation of environmental laws often remains linked to the development of texts of application which require considerable delays for their adoption and publication. Indeed, several laws remain devoid of most of the regulatory texts that would make their provisions effective.

Similarly, the effectiveness and the operability of these texts are function of the capacity of all the actors to exercise fully and judiciously their prerogatives and attributions with regard to the administrative police of environmental control, another weak link of the process of protection of the environment.

For the same purpose and in order to preserve the environment, a partnership between all stakeholders has emerged to put into practice a program adopted on such a subject with a view to a planning, management and follow-up better integrated and sustainable of the environment.

Hence the relevance of the partnership approach adopted with local actors for the realization of the environmental programs. This approach fits in the framework implementation of the framework agreements concluded in April 2009 between the 12 Kingdom Regions of the kingdom and all the ministerial departments concerned, and whose main are<sup>3</sup>:

- National Program of Liquid Sanitation (PNAL)
- National Program for the management of household waste and assimilated (PNDM)

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<sup>3</sup> Secrétariat d'Etat auprès du Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, chargé de l'Eau et de l'Environnement : Département de l'Environnement. (2010), Etat de l'Environnement du Maroc.

- Action program for the preservation of air quality
- program "clean beach"
- Program of Grouped supply in drinking water to rural populations (PAGER)
- National Program for environmental upgrading of rural schools (PNER)
- National Program for environmental upgrading of mosques and Koranic schools (PNMEC), etc.

Morocco adopted a communal decentralization strategy at the local level, with the publication of the first communal charter in 1960<sup>4</sup>. A charter which was developed in 1976 and recently in 2009, thus giving particular importance to the role of municipalities, and which has delegated several skills to this local authorities.

On the environmental plan, the National Charter on the Environment and Sustainable Development enshrines the right of every citizen to live in a healthy and balanced environment and that this right implies duties and obligations to each physical or moral person before to avoid prejudice to the natural environment and the common heritage, but also to work to develop it and ensure its sustainability for the benefit of present and future generations<sup>5</sup>.

The Charter thus devotes the values and fundamental principles to strengthen the action, the initiatives and strategies in order to achieve the objectives of sustainable development. It also takes account of all the points of view which reflect the daily lives of the local populations, with a view to developing a project integrated societal responding to the expectations of all the components of the Moroccan society and for the well-being of present generations and rising upwards. It also reinforces the main environmental programs dimension particular the the water strategy, the Green Morocco Plan, the Plan energy efficiency, the program cities without slums, the Halieutis Plan as well as the National Initiative for Human Development (INDH). Thus the objectives of the draft Charter are based on:

- The collective ecological awareness and behavioral change
- The strong commitment of the various actors
- The safeguarding of the biodiversity and the quality of the natural and historic heritage
- The balanced development and improvement of the quality of life and the health conditions of citizens.

The local councils deliberate and decide on measures to be taken to ensure the economic, social and cultural development of their communities within the framework of the attributions assigned to them by the legislator<sup>6</sup>. Hence the three types of competence of the Territorial Communities: clean, transferred and consultative.

The president of the communal council prepares the project of the communal plan of development which will be approved by the room. As well will be the date and the means to

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<sup>4</sup> Transparency Maroc. (2011). La gouvernance locale et la charte communale contribution au renforcement des principes de transparence et de bonne gouvernance.

<sup>5</sup> Le projet de loi-cadre n° 99-12 portant sur la charte nationale de l'environnement et du développement durable.

<sup>6</sup> Laraichi A. (2007). Le Management des Services Publics Locaux : Cas des Services Chargés de la Protection de l'Environnement, communication présentée au ministère d'intérieur.

be undertaken as for its realization, and proposes the actions to be undertaken in association or partnership with the administration, other local authorities or public agencies.

The theme of the environment occupies a fundamental place in the development of the Communal Development Plan. Resulting from a diagnosis of the territory<sup>7</sup>, the taking into account of the environmental dimension, and its integration in the decision-making process concerning the major upgrading projects of the city, will lead to a sustainable city project to improve to improve inconstancy the living environment of the citizens and to exploit in an optimal way its natural resources with the least impacts.

By opting for the choice of a sustainable and responsible development as a strategic orientation of its own development, Morocco affirms its will to take up the environmental challenges of this third millennium. This choice is dictated at the national level, not only by the necessary rationalization of necessary the management of the resources, guarantee of the future socio-economic development of the country, but also and especially because of a concern for continuous improvement of the quality of life of citizens.

Certainly, the laws and programs implemented will make it possible to upgrade the environmental space and to ensure a sustainable protection, nevertheless, in the face of the magnitude of environmental problems and the importance of the investment required, it becomes necessary to provide a national strategy for the protection of the environment integrated and efficient guaranteeing the coherence of various sectoral or regional environmental plans and programs. This strategy will allow moreover, to propose the optimal type of organization the for specific sectors, in this case the waste and sanitation liquid, which mobilize significant financing and require a technicality pointed and a speed in the action.

## **1.2- Environmental Management: from an ephemeral mode to a solid speech**

These last decades, an awakening was carried out as for the environmental questions followings the social, polical and legislative pressures to lead to a institutionalization, as a result the organizations are known to gradually integrate the definition of their strategies of environmental parameters.

Environmental management refers to the management methods of an entity (company, service, etc.) aimed to take into account the environmental impact of its activities, to evaluate this impact and to reduce it. It uses tools such as the ecobilan to determine the impact of the organization's activities on the environment<sup>8</sup>.

Enrolling in a perspective of sustainable development, environmental management is brought to evaluate to take into account the results of the measurements of impacts, following a process of continuous improvement (EMS). Thus, it must take into account the regulatory,

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<sup>7</sup> Ministère de l'intérieur. (2011). Contexte global de l'environnement : Déclinaison des engagements internationaux au niveau national.

<sup>8</sup> YONKEU S. (2011). Cour du système de management environnemental, Master Management de l'environnement, Université de Montréal

technical and economic constraints. This new form of management calls for equally new skills. As an Epilogue, we can say that the EMS is one of the tools of internal management that promotes the early integration of environmental objectives specific in other systems of management and decision-making process. It establishes the organizational structure, responsibilities, practices, procedures, processes and resources required. It is primarily a technique of management which is based on a systematic approach and a specific objective which is to implement, evaluate and improve the environmental policy.

The main interest of an environmental management approach is to have a tool to coordinate all environmental initiatives in a global approach is transversal. However, other objectives can be pursued through the establishment of an EMS, as well as at the economic, organizational, administrative, and territorial marketing level.

The main interest of an approach to environmental management is to have a tool to coordinate the whole environmental initiatives in a global approach is transversal. However, other objectives can be pursued through the establishment of an EMS, as long as at the economic, organizational, administrative level, and territorial marketing level.

As regards to the environmental strategy one finds that it is possible to attach to typologies of environmental strategies, different types of environmental management systems<sup>9</sup>, because the structure of the EMS can change from one company to another depending on the strategy adopted. despite the fact that the general structure of this system should be the same everywhere in the world. Some research in management among others has shown that the configuration of an EMS is influenced by the strategy is the goals pursued by the company.

Theoretically, there are two references in the field of SME : The first is the European System Environmental Management and Audit Scheme (EMAS), the second is the international standard ISO 14001. Each of these two references to encourage organizations to follow the path of the continuous improvement of the environmental performance. This latter key concept in the environmental management system.

The standard ISO 14001, published in 1996 and revised in 2015, specifies the requirements of an EMS<sup>10</sup>, allowing an organization to develop and implement a policy and objectives which take into account the legal requirements impacting it as well as the information relating to the significant environmental aspects of its activities. It applies to environmental aspects that the organization has identified as being those which it can control and those on which it has the means to have an influence. It does not introduce itself to specific criteria of environmental performance.

The requirements of the standard can be defined by seventeen main components organized around four main themes: commitment and planning, implementation, control and management review.

The spirit of the standard ISO 14001 articulates author of the Deming Wheel "The Continuous Improvement", its guiding principle stipulates that the realization of all actions can not be

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<sup>9</sup> GENDRON C. (2014). *La gestion environnementale et la norme ISO 14001*, Les Presses de l'Université de Montréal

<sup>10</sup> AFNOR. (2004). *ISO 14004:2004, Systèmes de management environnemental — Lignes directrices générales concernant les principes, les systèmes et les techniques de mise en œuvre*, AFNOR.

done instantly. It must be concretized in order to make it applicable in the long term, but without stopping its efforts, it can progress effectively step by step. Thanks to the information feedback which the system provides at regular intervals (via the various indicators), the improvement of the performance system's is continuous. This effort must, however, continue in the time, therefore it is not question of considering the certification audit as the final step.

On the other hand, the EMAS Regulation n ° 1221/2009 of 25 November 2009 repeals the system established in 1993 as from 1 January 2010. This European standard, also called Eco-Audit, oversees the Community system of environmental management (EcoManagement and Audit) Scheme), open to the voluntary participation of organizations established in the community or part from this one<sup>11</sup>.

While the ISO 14001 standard certifies the manner by which the company manages the environment, that is to say its management structure of the environment, the EMAS regulation goes further. Indeed, its registration applies to the environmental management itself of the company, in other words, the improvement of environmental performance. It therefore constitutes an additional step in the ISO 14001, towards more efficiency and transparency environmental.

As regards to the approaches of an EMS, and according to the standards ISO 14001, the main mission of the EMS would be to define the an environmental strategy of an organization's in order to improve its environmental performance. To achieve this, this standard proposes a structured framework and precise based on traditional management principles: definition of a policy, planning, implementation, operation, control and corrective actions, management system review and continuous improvement.

In addition, the EMS is a management system whose purpose is to help the organization to know, and then mastering the environmental impact of its activities, and to ensure the continuing improvement of the overall environmental performance in consistency with the environmental policy of the Organization. Moreover the continuous improvement of environmental performance is the key concept of the EMS.

To measure this performance, companies that adopt an EMS the type ISO 14001 can put in place a single tool to measuring the environmental performance, as they can use for purposes more profound all the tools that allow to assess the environmental performance.

We can distinguish four methods for the evaluation of the environmental performance: The eco-balance, greens accounts and the environmental budgets, the external environmental costs and the instrument panel green.

To conclude, it can be said that what was before a stimulus among many others of the environment of the company today became a central element in the organizations. The environmental question is indeed imposed, for a large number of companies, such as a major strategic axis directly involving senior management. In this context, the concept of environmental management made its appearance there are several decades under various aspects.

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<sup>11</sup> RSEmag, Simplification du dispositif EMAS, petit frère méconnu d'ISO 14001, 2010.



## **2- The Environmental Management of Tangier: issues and perspectives**

After having treated the notion of environmental management and presented the efforts implemented at the national level with regard the regulation and protection of the environment in the first axis, we will extrapolate the results of this analysis in order to evoke the question of environmental management Local.

### **2.1- The city of Tangier and environmental issues**

Tangier is one of the most important cities in Morocco geographically, the second on the economic plan, and among the first in the field of tourist. It is clearly distinguished from other cities in the country by its geographical location, its proximity to Europe (15 km via Tangier-Med port) and it is at the crossroads of two seas.

Tangier's territory is composed of several spatial entities which, by their natural and historical characteristics, display a strong image and a marked identity, participant in a predominating way in the construction of urban identity, these spaces, which can be described as a major.

We have already presented a definition of environmental management as methods of management of an entity designed take into account the environmental impact of its activities, to evaluate this impact and to reduce it. It follows that it connects several actors and institutions. In Tangier the principal stakeholders who are on standby and conscience of the concept of the environment are<sup>12</sup>:

- The Urban Commune of Tangier
- The Ministry of the Interior
- The Ministry of Land management, Water and Environment
- The Observatory for the protection of the environment and the historical monuments of Tangier
- The Regional Observatory for the Environment and Sustainable Development (OREDD) of the Tangiers-Tetouan region
- GIZ "Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH".
- The National Initiative for Human Development (INDH).

The Communal Development Plan and the communal charter are the two actions put-in-work by the municipality with in the aim of protecting the environment and to trace an environmental strategy.

The Charter of Tangier is a moral and solemn commitment of various local actors concerned by the development of the city, emanating from a common willingness to hoist the city toward better horizons and resurrect the values of citizenship, tolerance and cohabitation.

This charter will be subject to an annual evaluation to stop on its success and try to overcome the constraints related to its implementation, in particular through the organization of awareness campaigns targeting all the components of the Society for the involved in this great project. It should be noted that this Charter is based on two axes: the cleanliness and public space, commitment and responsibility.

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<sup>12</sup> Data obtained as a result of our study on the ground

Moreover, the regulatory determinants which govern the local communities especially the communal charter focus mainly on the management of local public services, particularly waste, wastewater, green spaces, and energy efficiency. The integration of the environment in the planning and local management pose several problems to know:

The management tools of the environment because the urban community of Tangiers does not have a plan local global environmental action or even a sectoral plan (green plan, management plan for integrated waste management, sanitation master plan ...)

The environmental issues in the PCD focus more on the management of local public services: solid and liquid waste, green spaces, preservation of natural resources, the economy of the water, etc. But when the environment is taken into account in the PCD, solutions and proposed projects remain very little developed:

- A few practices integrated: ecological waste management (recycling, recovery); water resource (retention and recovery of runoff or still the reuse of wastewater); or promotion of urban biodiversity.
- Little reflection on how to make this productive environment and vector of development: adoption of an integrated approach (economy, social, environment and culture) and search for tracks carriers of sustainable investment (green economy, sustainable city, agro-ecology, urban ecology or industrial, eco-tourism, sustainable mobility, energy efficiency).

As well as, the local community of Tangiers does not have an integrated plan for environmental action or a specific plan, except for the management of waste and sanitation liquid. Certainly, the community has commissions or committees dedicated to the coordinatting the environmental actions of the different technical services (Regional Council of Tanger-Tétouan). But, they are still at the stage of local initiatives.

In the absence of a directive of obligation (sea, eco-conditionality, etc.), the results of the integration of the environment in communal planning remain insufficient overall.

The theme of the Environment occupies a fundamental place in the development of the Communal Development Plan. Resulting from a diagnosis of the Territory, the taking into account of the environmental dimension and its integration in the decision-making process concerning the major projects to upgrade the city, will lead to a Sustainable City project to improve in Constance the framework of life of citizens and to operate in an optimal way its natural resources with lesser impacts.

The water, green spaces and waste or more generally the environment are today is part of the fundamental data of the economic landscape, but the number of managers within the commune does not seem to be in parallel with the environmental constraints of where a need for accompaniment is effective to this end, respecting the regulatory and making profitable their environmental investments.

To adapt to environmental standards, the municipality was in need of an accompaniment of the public authorities. As the regulations on the respect of the environment are numerous and more precise, this represents a strong constraint for economic entities, thus the services of the

State which are not the best placed. As a result, without the having wanted to, local communities are found in the first line.

## **2.2- Environmental Management within the urban commune of Tangier: state of places, constraints and prospects**

The green spaces, the management of drinking water, sanitation liquid, cleaning and discharge are the three main environmental problems within the city of the Tangier. These are the three environmental aspects that the urban commune of Tangier begins to take conscience with regard to their management.

Moreover, the city of the Tangier is part of the spaces in which the issue of the management of the environment is relevant. The damage to the environment are widespread and growing. The collection of household waste and drainage of waste waters constitute one of the most major difficulties that meeting the municipal authority. These difficulties result in an accumulation of household waste, the erection of many wild deposits and the stagnation of wastewater and stormwater and rainwater in many neighborhoods. The weakness of the rate of coverage of this important service has for consequence an unhealthy environment, unhealthy characterized by the pollution of the air, the soil, the subsoil and the degradation of the framework of life of the populations. The pace of growth creating needs in all areas, to such a point that the waste management has all the chances to go after other priorities.

Since the first of January 2002 and for a contract for 25 years, the urban commune of Tangier has delegated its management of liquid sanitation and distribution of drinking water to Amendis.

The specifications signed between the commune and Amendis revolves around the following axes:

- The elimination of polluting effects of Tangier Bay
- The fight against floods in Tangier by the creation of the networks drainage networks such as the Val Fleuri-Souani center and the El Ouarda- Canal Benkirane center.
- The generalization of access to drinking water services and liquid sanitation. Moreover according to the bulletin of the company in the end of 2014, 41 neighborhoods benefited from the connection of water and purification.
- Project Tracking tangier metropolis by the elevation of the constraints such as the restructuring and expansion of winter water pumping stations and drainage and treatment channels.

The use of delegated management has made it possible to mitigate the delay in investments, especially in liquid sewerage, to achieve a a station with the pretreatment of wastewater, to build emissaries at sea, to install large source stations capacity and to increase the dimensions of the tanks in drinking water.

In addition, Tangier's pollution control system includes<sup>13</sup>:

- 50 linear kilometers of interceptors completed
- 24 pumping stations +14 kits
- SPRET port of Tangier
- STEP Boukhalef
- Emissary at sea, 2.2 km long, is located at 42 m depth and partially buried.

Thus, the rejection of waste waters is of 113 032 m<sup>3</sup> / day in 2014 and 195 000 m<sup>3</sup> / day according to the forecasts in 2027.

A first in Morocco, Amendis Tanger, a subsidiary of Veolia Environnement Morocco, obtained the ISO 14001 certification, version 2004 for the Environmental Management System, following the audit carried out in December 2011, by the independent certification bodies IMANOR (Service de Moroccan Industrial Standardization) and BVQI (Bureau Véritas Quality International). Based on control of processes and the identification of the environmental aspects and impacts related to the wastewater treatment station as well as a rigorous regulatory watch, this approach makes it possible to secure the daily actions of each, while making them more efficient. This was made possible by the preventive and corrective actions taken following the various internal audits, an intense effort of internal and external communication and the sensitization of the collaborators and the subcontractors.

The SME is organized according to a thematic axis which includes the main commitments of the QS Environment Policy of Amendis Tangier, namely:

- The Pollution of the natural environment by wastewater
- The improvement of sanitary conditions
- The pollution of the Air by the release of greenhouse gases
- Waste management related to the operation of water, sanitation and electricity networks
- Noise and smell marks
- The management of natural resources
- Training and environmental awareness
- External communication on environmental commitments.

The main problems encountered with the distribution of drinking water and liquid sanitation are as follows:

- Pollution of Tangier Bay because of flows wastewater.
- Landfill leachate flows to the bay
- Bad quality of bathing water at the beach of Tangier City, the beach was ranked C in 2011 (annual ranking carried out by the Ministry of Equipment and Transport)
- Floods and health risks aggravated
- Impassable wadis with nauous odours.

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<sup>13</sup> Velolia Amendis. (2016). Gestion Déléguée des Services de Distribution d'Électricité, d'Eau potable et d'Assainissement liquide de la Wilaya de Tanger-Asilah, Impact environnementaux de la SPRET Port, Rapport interne Amendis.

- Degradation of the sewerage network
- Lack of accountability of industrialists over industrial wastewater
- Some neighborhoods do not have access to drinking water and sanitation.

But in front of this situation, some efforts have been made by the company delegate Amendis, in particular by the starting of two preprocessing stations SPRET Port Tangier and STEP Boukhalef with an Emissary at sea, 2.2 km long, located at 42 m depth and partially buried and the project of prevention against floods is being carried out at the commune of Tangier Medina, , in the framework of the program of the upgrade of the city.

The green spaces in a municipality are the soul of ecological diversity, because they cover all the ingredients capable of providing citizens with a moment of well-being, in a colorful environment, cleverly constructed and where the parameters of the protection of nature lead to preserving the planet and its inhabitants.

Tangier is in front of its geographical limitation, on the one hand the mountains and on the other hand the ocean is faced with the problematic of creation of new green spaces. Hence the question: "How will the municipality proceed with the management of green spaces?"

It is certain that the environment in Tangier is in a critical state, the city is among the cities having a low density of green spaces in the kingdom.

In the matter of "green", the first observation that can be made on the city is that the international standard of 10 m<sup>2</sup> of green space per capita is not respected. But despite some efforts to create more green spaces, there are in reality that 3.15 m<sup>2</sup> <sup>14</sup> . The city is very far from the account, its need in greenery is estimated at 592.34 hectares. To remedy this lack, it would have to multiply the present surface of green spaces by two and a half times.

It should be noted that this evolution in terms of green space is due to the results of some programs and plans put by the municipality such as the green plan.

Moreover, the scarcity of green spaces is justified for several reasons among which we can mention:

- Historically the city was coveted and colonized by several international powers at the same time: the Spanish, the English... This is the reason for which there was only a only Green Space The "Mandobiya"
- Geographically the city is characterized by a ocean coastline Important: the Atlantic and the Mediterranean, but its mountains prevent the city to create more green spaces
- The demographic explosion which is always in growth requires a permanent vigilance with regard to the creation of new spaces for new immigrants.

The service of the green spaces of the urban commune of Tangier manages the large spaces of the districts whose areas exceed 1 hectare. While the small green spaces are managed by the districts.

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<sup>14</sup> Observatoire pour la protection de l'environnement et des monuments historiques de Tanger. (2016). l'Etat de l'environnement et des monuments historiques de Tanger, Etat des lieux et enjeux 2015, rapport annuel.

Thus since 2011, approximately the maintenance of 70% of green spaces is provided by private companies, according to a contract of a maximum duration of 3 years, while 30% are managed by the municipality itself.

By its unfavorable position in the organization chart, this service is the occasional interlocutor of the decision makers. Delivered to themselves, its officials may only manage the daily according to the budget allocated with more or less success.

A detailed analysis of the expenditures assigned to the operation of the green spaces shows that a large part is devoted to the payment of the labor, to the costs of water and electricity, while for the green spaces themselves (plants, fertilizers, insecticides, tooling and equipment), are of lesser importance are reserved.

The operating expenditures are more important than those of equipment, the fact that the common, because of the inadequacy of the human means, has proceeded to the current maintenance of a large part of its green spaces by private companies through the markets renewable since the year 2011.

Moreover, the management of green spaces in the urban commune of Tangier has strengths and weaknesses.

We can summarize the points as strong as below:

- A Green Plan and landscaping comes to be developed.
- Civil society closely follows the development of the PA of the city and denounces any act aimed at the destruction of the green areas.

We can prioritize the weak points as follows:

- The total area of green spaces is rises approximately 283 ha, this area remains disproportionate in its distribution at the level of the districts.
- Despite the efforts of the services of the Wilaya and of the commune, a good number of gardens and green spaces within certain districts remain very poorly maintained.
- Lack of awareness of citizens on the respect of the cleanliness of the green spaces
- several acts of vandalism and destruction on the equipment of the gardens (lighting, benches, playgrounds , watering equipment).
- Lack of staff for the maintenance of green spaces.
- Watering of green areas with drinking water.

The problem of solid waste in Morocco in general, and in Tangiers in particular, is one of the major concerns of the urban environment. A city like Tangier must cope with increase in the volume of waste that it produces. This increase is due not only to steady growth in the number of inhabitants, but also to changes iof modes of production and consumption.

Thus, according to the communal charter, the collection and transfer of household waste and assimilated are at the charge of the municipalities. This operation is the most visible of the waste management system and constitutes a parameter for the assessment of the effectiveness of municipal services.

Among the novelties adopted at the level of the collection of waste in the urban commune of Tangier, there is the strategy to divide the city into two autonomous sectors (Zone A and zone B). The management of these two sectors are entrusted to two different companies to create a kind of competition between them in order to develop the service. In fact, zone A is managed by SITA BOUGHAZ for Tangier-Medina and Charf-Souani; Zone B is managed by SOLAMTA for the district Charf-Mghougha and Banimakada.

The quality of the collection and cleaning has improved significantly, however several problems, related to logistics and monitoring mechanisms, affect the cleanliness of the city. This is evidenced by the very large amount of waste (304,932 tonnes in 2010)<sup>15</sup>; the inadequacy of waste bins (containers not adapted by type of habitat); the direct search in the bins by the beggars and the poor people; the absence of selective sorting; the schedules for depositing non-fixed waste; the absence of monitoring mechanisms by the municipal elected representatives (the Monitoring and Monitoring Committee lacks means of control); the lack of awareness of the citizen about the problem of collection (intensive use of inappropriate plastic bags, deposit of waste away from bins, etc.); the problem of container burns; informal gatherers and grazing and sidewalk invasion; non-compliance with the collection schedule; the insufficiency of human potentials in executives, technicians and workers for the good management of waste collection; the insufficiency of collection vehicles and the obsolescence of a good part of the municipal park; the institutional, legal, financial and technical constraints; the incivility of inhabitants of the education and awareness about the fault of environmental culture.

The current public management of the discharge of Tangier constitutes, moreover, one of the major problems of the decade in terms of the degradation of the urban environment, in the measure where the waste sent to the landfill are mixed without any sort to the source. There is of household waste, hospital and industrialists with a variable severity. Such a management has a negative impact on all the environmental components of the region. One edge quotes the pollution of the air and the water pollution, the contamination of the marine environment, the proliferation of rodents and insects and the degradation of the landscape, etc. You could even say that the discharge current communal is a wild discharge and not controlled causing a large spontaneous extension at the level of its area. Currently the discharge is surrounded by a residential area, and in the absence of any treatment, waste devastate the lands neighboring private properties. The current state of the discharge has environmental impacts very dangerous on the environment of the city. Here is a non exhaustive list:

- Presence of smoke 24h because to the incineration not controlled waste disposal and plastics in free air, which causes of toxic emissions
- slip and the waste stream of more and more frequent
- Impact on Hygiene (livestock feeds in the discharge)
- Disposing of the leachate that contaminates the groundwater and surface water
- Activities of the sorting is doing in an informal manner by the scavengers who lodge in the discharge (approximately 150 families).

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<sup>15</sup> Commune urbaine de Tanger et la Wilaya de la région Tanger-Tétouan. (2014). La gestion, l'exploitation et la réhabilitation de la décharge publique, rapport annuel.

In the form of a SWOT analysis, the table below summarizes the magnitude of the opportunity and the extent of the risks of the environmental situation in the urban commune of Tangier.

*Table : SWOT analysis of the environmental situation of the urban commune of Tangier*

<b>Strengths</b>	<b>Weaknesses</b>
<ul style="list-style-type: none"> <li>- Development and recalibration of wadis: Mghogha, Souani, Lihoud</li> <li>- Existence of a unit of air measurement</li> <li>- Start-up of a wastewater pre-treatment station</li> <li>Flood Prevention Project underway as part of the City's -Upgrading Program</li> <li>- Important intervention of Wilaya and INDH for green spaces</li> <li>- Presence of local and regional associations operating in the field of the environment.</li> </ul>	<ul style="list-style-type: none"> <li>- Absence of rigorous monitoring of the activities carried out within the framework of the delegated management Solamta, Cita and Amendis</li> <li>- Degradation of the sewerage network</li> <li>- Lack of staff for maintenance of green spaces</li> <li>- Watering green areas with drinking water.</li> <li>- Absence of monitoring mechanisms by elected municipal officials</li> <li>- Very significant amount of waste</li> <li>- Non-existence of a law on coordination between the boroughs and the municipality</li> <li>- Land constraints</li> <li>- Anarchic urban extension</li> </ul>
<b>Opportunities</b>	<b>Threat</b>
<ul style="list-style-type: none"> <li>- Communal Charter and COP</li> <li>- National Charter on the Environment</li> <li>- Diagnostic studies on the landfill and green spaces</li> <li>- International cooperation with GIZ and other organizations</li> <li>- Demand on green tourism</li> <li>- Municipal Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>- Deteriorated framework</li> <li>- Health problems</li> <li>- Material loss due to flooding</li> <li>- Negative impact on economic activities and the image of the city</li> <li>- Exhaustion of land of the State</li> </ul>

Source: Prepared by ourselves

## **Conclusion**

The protection and the good management of the environment, it is first of all a social conscience, followed by a political will, and finally a mobilization of all the socioeconomic means as much on the local level as on the national level. This complex process fundamentally depends on a common lever, namely knowledge and information. To know the environment supposes a scientific and objective description of its main components taking into account their evolution according to the social and economic realities. This first step is



necessary so that we can understand the environmental problems, make the right decisions and convince all the actors and the population to adhere to them.

The preservation of the environment is at the center of the concerns of institutional stakeholders, supported by an increasingly vigilant and active civil society and a conscious and committed private sector. However, whatever the degree of mobilization of all the vital forces of society, we continue to face environmental problems whether they are due to natural phenomena that we do not control, or through the abusive exploitation of our resources . Added to this is the lack of training of environmental stakeholders in terms of supervision, data and lack of skills; the inadequacy of the budget devoted to the protection of the environment; the lack of basic infrastructure that compromises urban ecology; the misunderstanding of environmental issues on the part of elected representatives and, consequently, decision-making that does not meet the city's requirements regarding their environmental problem.

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