

Preserving the Environment and Establishing Sustainable Development: An Overview on the Moroccan Model

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Abstract. Over the past two decades, Morocco has been able to develop a political and strategic vision which has gradually considered the environment as a prerequisite for any public policies. The new approach aims to make the environment the cornerstone of sustainable development, and therefore, ultimately, of the birth of a new "green and inclusive" economy. This vision benefits from an exceptional impetus from His Majesty the King Mohammed VI. Morocco has therefore put in place a national environmental and sustainable development policy which breaks down into several priority areas, namely: strengthening the legal and institutional framework; environmental upgrading through programs dedicated to the preservation of the environment and providing financial instruments and systems in the service of environmental monitoring. In addition, Morocco, with its strategic north-south status, is actively engaged in the environmental diplomacy and multilateral cooperation. On the road to an integrated and sustainable human development, Morocco continues to deploy ambitious efforts in environmental communication, awareness and education. Based on the bidimensional classic model, Morocco has therefore developed a tridimensional/pyramidal model for the sustainable development. This, by integrating governance in the summit, and putting human being at the center of the new form, as an actor and a beneficiary at the same time. This manuscript presents an overview of the Moroccan model in all aspects of preserving the environment and establishing the second generation of the sustainable development.

1 Introduction

Over the past twenty years, Morocco has been able to develop a political and strategic vision which has gradually placed the environment at the heart of socio-economic development. This position has made the environment no longer a simple variable, but a prerequisite for any strategic thinking, which requires a process of consideration and integration at all levels of public policies.

The new approach aims to make the environment the cornerstone of sustainable development, and therefore, ultimately, of the birth of a new "green and inclusive" economy. To do so, Morocco has adopted in its development strategy the concept of sustainable development that promotes a balance between economic, social and environmental objectives, which consist of improving the life quality of citizens, strengthening the sustainable management of natural resources and promotion of economic activities environmentally. This vision benefits from an exceptional impetus from His Majesty the King Mohammed VI.

In accordance with its international commitments and the provisions of the new Constitution, Morocco has laid the foundations for achieving sustainable development in the country through various legal, institutional and socio-economic aspects. This process was notably reinforced by the adoption of the National Charter for the Environment and Sustainable Development (NCESD) in 2017. This proactive integration of the environmental dimension into development plans aims to promote the transition to a green economy by 2030.

Moreover, Morocco is an active participant in international efforts to preserve the planet. In this context, multilateral cooperation constitutes a constant commitment for the kingdom. By subscribing with the international community to the Sustainable Development Goals (SDGs) program, Morocco immediately considered these goals as one of the structuring dimensions of its national development model, the renovation of which is now subject to a vast national debate. It is clear that in the attempt to consolidate this model, Morocco is endowing itself not only with an internal strategic vision, but also with an instrument for

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consolidating multilateral cooperation, particularly with African and least developed countries.

2 Strengthening Governance as Effective Preservation Tool

2.1 Legal and Institutional Framework

To ensure the sustainability of social and economic advances in the context of sustainable development, it was essential to complete the national legal framework and make it effective, by speeding up the process of examining and adopting the implementing texts of environmental laws. The various texts adopted concern several fundamental areas, related directly to the preservation of the living environment of citizens, in particular environmental impact studies (law No. 12-03)[1]; the fight against air pollution (law No. 13-03)[2]; waste management and disposal (law No. 28-00)[3], the ban of plastic bags (law No. 77-15)[4]; the laws relating to the coastline (No. 81-12)[5], water (No. 36-15)[6] and protected areas (No. 22-07)[7], as well as the laws relating to renewable energies (No. 13-09)[8] and energy efficiency (No. 47-09)[9].

After the adoption of the new constitution in July 2011, the "sustainable development" has become a constitutional right, according to which the Chapter 31 obliges the State, public institutions and local authorities to work to mobilize all the means available to facilitate the reasons by why citizens benefit, on an equal footing, from the right to "have access to water and to live in a healthy environment", and the right to "the sustainable development". Still within the framework of fundamental rights and freedoms, the Chapter 35 has strengthened the position of the second generation of the

sustainable development concept, by emphasizing the work of the State to "achieve sustainable human development that would strengthen social justice, preserve the national natural wealth and the rights of the future generations". In addition, the new regional organization guarantees, in accordance with the Constitution (Chapter 136), the contribution of the population to "integrated and sustainable human development" [10].

The realization of these constitutional provisions saw the day light quickly with the framework law No. 99-12, as the National Charter of the Environment and Sustainable Development (NCESD)[11], which explicitly guarantees the right to a healthy environment, the right of access environmental information and citizen participation in the decision-making process relating to the environment. This Law also provides for the creation of a compensation scheme for environmental damage. In accordance with the provisions of this framework law, a National Sustainable Development Strategy (NSDS) was drawn up and adopted on June 25, 2017 by the Council of Ministers under the effective chairmanship of His Majesty the King Mohammed VI [12].

Since the adoption of the NSDS, the Government has taken steps to accelerate its implementation, namely, strengthening the governance framework; developing and updating Sectoral Action Plans for Sustainable Development (SAPSD) in collaboration with the ministerial departments; the development of the Administration Exemplarity Pact (AEP) and the establishment of a Project Management Office (PMO) to monitor the execution of this strategy. In order to strengthen the governance of sustainable development at the national level, a decree of the Head of government (No. 2-19-452) was adopted on July 29, 2019 [13]. This

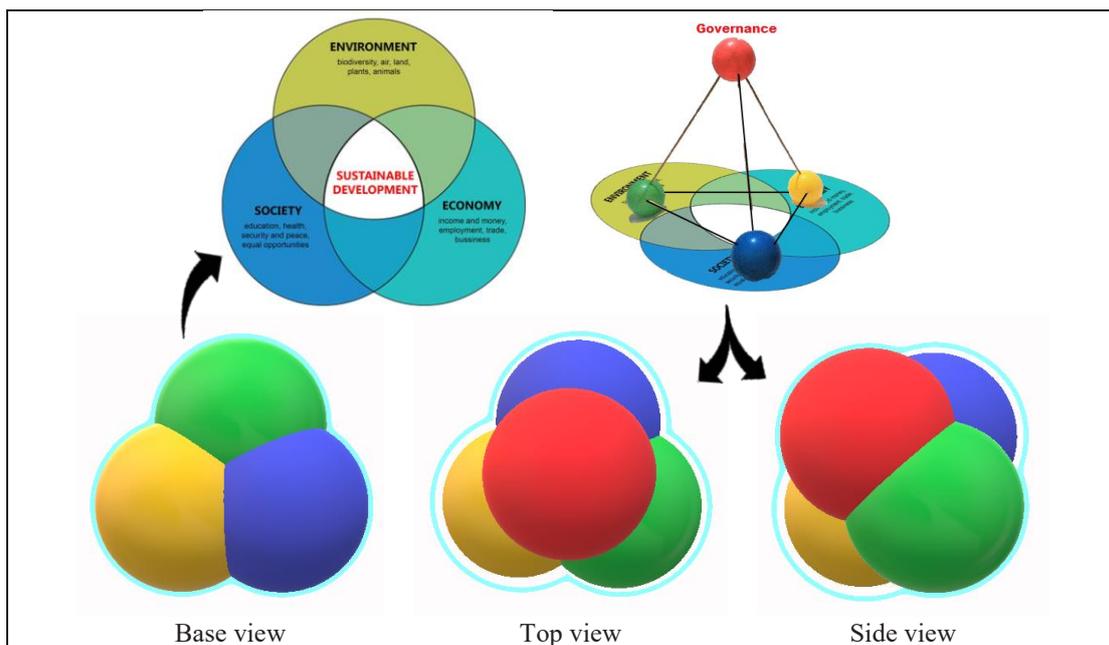


Figure 01: Classical (2D) and Pyramidal (3D) Concept of Sustainable Development.

The intersection between the 4 spheres determines the sustainability space. Any unbalance or instability between the pyramidal components makes the sustainability concept ineffective.

new governance framework has made it possible to set up several governance bodies with the role of strategic orientation; consultation and monitoring of the work of the strategy implementation; monitoring of the achievement of SDGs. A Focal Points Committee (FPC) which brings together the contact points of the ministries and institutions involved in the implementation of the NSDS has also been set up.

Given the great importance that Morocco attaches to the governance dimension, the institutional framework is reinforced by three Working Groups on the Administration Exemplarity (WGAE) in order to guarantee the achievement of the established objectives, namely: (i) generalize environmental procedures in public buildings; (ii) make public administrations part of the logic of waste management and recovery; (iii) strengthen the initiatives of a "Responsible Employer State"; (iv) integrate a participatory approach and improve transparency; (v) promote sustainable and responsible public procurement and (vi) develop the exemplarity of public actors in the area of sustainable mobility [14].

As part of the implementation of the NSDS, a monitoring system in the form of an interministerial interface has been put in place to monitor the progress of the SAPSD and the AEP implementation. In June 2020, the overall progress of the NSDS was assessed at 47%, of which 32% concerned the AEP implementation and 61% was achieved in the SAPSD implementation [15].

2.2 Support Instruments and Monitoring Systems of the Environment

Particular attention has been paid to the development of instruments to drain the additional financial resources needed to carry out public or private environmental protection projects or to recover the costs of pollution treatment and elimination operations, including the National Fund of the Environment and Sustainable Development (NFESD), established in 2004 by the Law No. 11-03 on the protection and enhancement of the environment to help finance waste management programs and projects of depollution and prevention [16]; the Industrial Depollution Fund (IDF), created in 2003 with the support of Moroccan-German cooperation to encourage environmental upgrading through technical and financial support from industrial or craft companies; and the Voluntary Mechanism for Industrial Water Pollution Control which supported 27 projects.. Within the framework of the Clean Development Mechanism (CDM), Morocco has participated, by the *Fonds Capital Carbone Maroc* (FCCM), in the development of projects related to the implementation of the Kyoto Protocol on climate change.

To increase the part of renewable energies in the production of electricity, Morocco created in 2007 the Guarantee Fund for Efficiencies and Renewable Energies, intended to guarantee the investment credits

granted by credit institutions to Moroccan companies and operators wishing to invest in Renewable Energies (RE) and Energy Efficiencies (EE). In 2009, the Energy Development Fund (FDE) was created to support the new national policy for the development of electricity production from RE and EE. This fund has made it possible to strengthen and secure existing production capacities and provide financial support for energy efficiency projects and companies specializing in energy services.

By investing in renewable energies, especially solar energy - *Nour*, Morocco has now a power capacity from renewable sources accounting for 34% of the national capacity of the electricity mix and aims to achieve 52% by 2030. The development of this extensive renewable energy program is carried out by the Moroccan Agency for Solar Energy (MASEN). In addition, Morocco has set up a Moroccan Agency for Energy Efficiency (MAEE) to strengthen the energy transition as well as the area of cooperation [15].

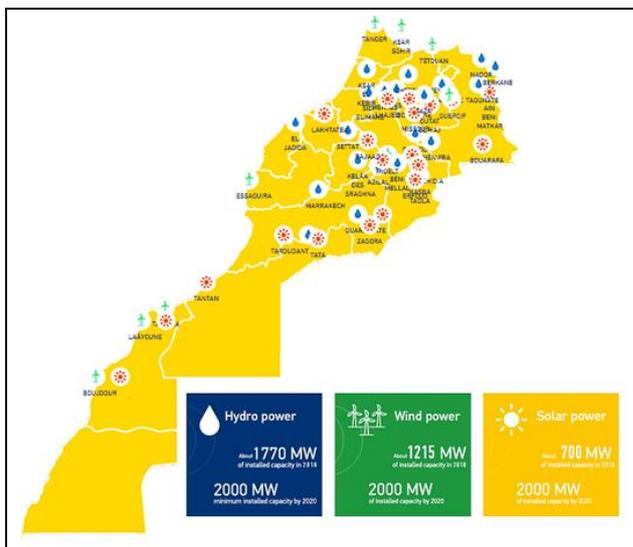


Figure 02: Renewable Energy Projects Map in Morocco (MASEN, 2020). <http://www.masen.ma/en/projects>

Parallely, a prevention and environmental monitoring system has been put in place through the strengthening of monitoring, evaluation and prevention tools, with: (i) strengthening of the National Laboratory for the Environment and National Observatory for the Environment and Sustainable Development; (ii) the creation of the National Environmental Police; (iii) the creation of Regional Observatories for the Environment and Sustainable Development; (iv) setting up the national committee and regional committees for environmental impact studies and (v) integrating the environmental dimension into development projects by requiring an impact study for all investment projects, in accordance with the provisions of the Law No. 12-03 [15].

3 Programs Dedicated to Environmental Upgrading

To overcome the delay in controlling the management of atmospheric, liquid and solid emissions, several large-scale programs have been launched to respond to concerns about preserving the environment and therefore improving the quality of citizens' life.

3.1 Management of Discharges and Waste

For the improvement of air quality in the various polluting activity sectors, several actions have been initiated within the framework of the National Air Program (NAP: 2018-2030), in particular, the implementation -since 2001- of the Air Quality Monitoring Network; the development of guidelines for the reduction of atmospheric emissions generated by certain industrial activities; the institutionalization of the Regional Air Quality Monitoring and Surveillance Committees and the strengthening of their capacities; carrying out cadasters studies of atmospheric emissions in the big cities, i.e. 25 provinces between 2010 and 2017, and preparing the National Report and Regional Reports in 2018 on air quality [17].

Developed in 2005, the National Liquid Sanitation and Wastewater Treatment Program is set to achieve an 80% overall connection rate to the network in urban areas and to reduce pollution by at least 60% by 2020. At the end of 2018, the rate of connection to the wastewater network increased to 76%. In addition, 147 wastewater treatment stations (WWTS) and outlets were built, including 58 with tertiary treatment. Work on 80 other WWTS has been started. By 2040, the National Program for Liquid Sanitation and Reuse of Mutualized Purified Wastewater (PNAM) is looking forward to carrying out 1,207 sanitation projects in rural centers and equipping 154 towns, for a rate of connection of 80% and 90% respectively, in addition to the reuse of 573 Mm³/year of treated wastewater [18].

Launched in 2008, the National Household Waste Program (NHWP) covers all towns and urban centers. It aims to adopt a set of measures, modulated in the medium and long term over a period of 15 years (2008-2022), intended to alleviate the problems of the sector. The NHWP has set as specific objectives the expansion and professionalization of the collection service, the use of disposal practices that respect the environment and the promotion of recycling activities. This program made it possible to carry out 26 controlled landfills / landfill and recovery center (LRC) and rehabilitate 49 uncontrolled landfills, which increased the professional collection rate from 44% before 2008 to 85.2%, with an implementation rate of 62.63% of household waste, i.e. 3.94 million tonnes, against 10% before 2008 [19].

3.2 Valuation and Preservation of Resources

Funded by the NFESD and the IDF, the Program for the Prevention and Fight against Pollution of the Industrial and Craft Sectors has contributed to the reduction of pollution and the preservation of natural resources, through the financing of ovens. gas, the collection, treatment and recovery of vegetable water and olive pomace, as well as support for 96 projects between 1999 and 2008 [15, 19].

Recourse to the circular economy - reduce, reuse, recycle - is a key task in sustainable waste management. It was a reference for the launch of the National Waste Recovery Program (NWRP). The NWRP results in the establishment of waste recovery channels within a Public-Private contractual framework. Six agreements have been signed with the private sector in order to structure and develop six waste recovery channels across the country. Ten other sectors are in the diagnostic or study phase. These recycling and recovery channels concern used lead batteries; used tires; used motor oils; paper and cardboard; used edible oils; electrical and electronic equipment waste; construction and demolition waste; waste including plastic and end-of-life vehicles [20, 21].

4 Communication, Awareness and Environmental Education

Promoting the culture of sustainable development through information, awareness and education is one of the main pillars of the NSDS. In this context, the ministry responsible for the environment and sustainable development pays particular attention to these areas in order to support environmental dynamics and mobilize stakeholders to take the environment into account in their policies and actions.

Support in terms of information and awareness of these programs is characterized by the realization of mobilization campaigns using all means of audiovisual, written and electronic communication and by the production and distribution of several media in different formats. Likewise, the mobilization of the different components of civil society in favor of the environment and SD and the development of a culture of protection and preservation of the environment, is done by the implementation of differentiated and complementary actions in terms of information and awareness. Educational programs on different environmental themes are developed and carried out in order to strengthen ecological awareness, especially among children and young people [15].

In this context, the Mohammed VI Foundation Environment Protection, created in 2001, plays a fundamental role in environmental awareness and education. The foundation is aimed at everyone, from schoolchildren to political and economic decision-makers. The Foundation develops awareness of environmental issues, the right to a healthy environment and SD, as enshrined in the constitution of the Kingdom. The foundation relies on a network of national and

international partners to carry out its projects which concern the safeguard, the restoration and the development of environmental areas, in addition to education and awareness [22].

5 Environmental Diplomacy and Multilateral Cooperation

In addition to the national initiatives for environmental protection and the establishment of the SD, Morocco is an actor engaged in environmental diplomacy. Indeed, the Kingdom has been present on the international scene, since the launch of negotiations at the multilateral level, on the need to act and react to environmental constraints and climatic dangers. Since then, Morocco has actively participated in international efforts to preserve the planet.

In this context, multilateral cooperation constitutes a constant commitment for Morocco. This commitment defined in 1992, with the King's speech at the Rio Summit, the "vision of the fundamentals for the construction of a new model of society". In 2001, Morocco hosted the 7th Conference of the Parties to the United Nations Framework Convention on Climate Change - COP7 in Marrakech. In 2002, at the World Summit on Sustainable Development in Johannesburg, the King Mohammed VI recalled Morocco's commitments and its efforts in the area of environmental protection and sustainable development.

In 2016, Morocco has organized the COP22, which was the Action COP in particular by formalizing the role of non-state actors. This multilateral diplomacy, as understood by the Kingdom, works to achieve a dual objective. On the one hand, honor Morocco's commitments to the international environmental legal arsenal. On the other hand, contribute to the promotion of SD, not only in the country, but also in other regions of the world, particularly in Africa.

Indeed, Morocco is an African power solidarity with the great challenges of the continent. In this context, many initiatives have been launched, including the African Summit of action met in the margins of the COP22. The summit brought together some fifty countries from the continent and resulted in a joint declaration, in which the Blue Fund initiative had found its place, as well as the initiative for the Adaptation of African Agriculture (AAA) and other actions in the energy field [23]. In April 2018, the Blue Fund was implemented to make the equatorial forest, located in the Congo Basin, the second green "lung" on the planet after the Amazon.

Furthermore, Morocco has created a Climate Change Competence Center - the 4C, which enables the capacity building of national actors and support for the African continent in order to develop resilience in the face of climate change. The 4C project has an orientation clearly linked to Moroccan diplomacy in favor of Africa, which

comes in addition to the joint launch with Ethiopia of the "Coalition for a Sustainable Energy Access" [24], for the benefit of the less advanced countries.

6 Conclusions

Considering the sustainability of social and economic advances, Morocco has adopted an effective institutional and legal framework. Indeed, the "sustainable development" has become a fundamental right. The Constitution has established the foundations of a new generation of right to sustainability by the concept of the "integrated and sustainable human development". Accordingly, the importance given to the environmental policy and the governance dimension is added to the classical concept to develop a pyramidal model, which could be an inspiration to many growing countries.

Recently, the monitoring of the overall progress of the NSDS implementation was assessed at 47%. In the near future, special attention will be paid to the reinforcement of the NSDS by its implementation at regional and local level, in consultation with the concerned stakeholders and to the acceleration of the implementation of the AEP. Taking into account national novelties and international commitments, another assessment of the implementation of the NSDS is scheduled for 2021. Under current conditions, it is clear that the Covid-19 pandemic has come, however, to disrupt the commitments and the efforts made by the kingdom. The pandemic has caused direct negative effects on the entire economy and indirect through its consequences on Morocco's main partners.

Despite this situation, Morocco continues to invest in the environmental field. The country has actively worked to implement mechanisms for the detection, monitoring and surveillance of the environment; to accomplish programs that combat air pollution, solid and industrial waste; and to strengthen the national policy in the fight against climate change. By investing in renewable energies, Morocco now has energy from renewable sources representing 34% of the national capacity of the electricity mix. This makes it close to the ambitious goals of its environmental policy, which even exceed European objectives. In particular, achieving the Paris objectives and fulfilling its commitment to reduce its greenhouse gas emissions by 32%, by increasing the weight of renewable energies in the energy mix to 52% by 2030. Moreover, recourse to the circular economy is a key task in the SD. It was a reference for the launch of national programs which creates wealth and jobs throughout the territory. Its development should allow Morocco to derive an advantage in terms of reducing imports and preserving resources.

Promoting the sustainable development culture through communication, awareness and education was paid particular attention in order to support environmental dynamics and mobilize stakeholders to take the environment into account in their policies and

actions. Many initiatives were initiated with different components of civil society and various educational programs were carried out. In addition to the governmental authority in charge of the environment, the Mohammed VI Foundation for Environment Protection plays a key role in the realization of many educational and preservative projects.

Along with these achievements in terms of environmental preservation and the establishment of a SD, Morocco is actively participating in various international efforts to preserve the planet. Driven by its convictions of collective responsibility and its commitment to the principle of equity, the kingdom wants to chart the course of a global, responsible and just commitment for the good of the whole planet. In this context, the establishment of the SD occupies a structuring place in Moroccan diplomacy.

In this context, Morocco sets up global partnership, particularly South-South cooperation, as a strategic axis of its foreign policy. It gives Africa a central place. Indeed, Morocco occupies a position of continental leader in the field of environmental protection and the fight against the climate change effects. In recent years, the Kingdom has been keen to share its experiences with many countries, especially the less developed. The country has taken the necessary actions to network specific skills in the field of environmental preservation and green economy. As well as making the voice of Africa heard in the implementation of the Global Agenda for Climate Action, as promised by His Majesty the King Mohammed VI.

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