

Social and ecological transformation in Morocco and across Africa

Country Analysis Paper **Morocco**



COUNTRY ANALYSIS PAPER ON:

SOCIAL & ECOLOGICAL TRANSFORMATION IN MOROCCO

MANDATING ORGANIZATION: **HEINRICH-BÖLL-STIFTUNG AFRIQUE DU NORD**¹

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■ 1. Executive summary

In the last forty years, the severity of climate change impacts in Morocco induced social and ecological changes. These changes could be labeled as part of a transformation process to cope with and develop the resilience needed to deal with climate change impacts. Morocco is facing more and more severe climate challenges such as water scarcity and natural resources degradation. This has led to social consequences such as the intensification of immigration from rural areas to cities and the consequent pressure on urban development, the loss of small farms and increased irrigation spending, and the use of fertilizers and pesticides. On the other hand, Morocco is settings new regulations and updating the existing regulatory set in order to respond to challenges generated by social and ecological transformation. Climate change is gaining attention within the societal debate; however, awareness on climate change is still not sufficient, and only those communities heavily affected by climate change consequences are considering and implementing measures to cope and develop their own resilience.

Morocco has no other choice than to invest and to commit further to shaping the social and ecological transformation in order to achieve sustainability and resilience. Such commitment shall address the country's need to create a society of knowledge, enforcement of law and decouple growth from resources consumption.

■ 2. Introduction

Morocco is one of the most affected countries worldwide by climate change. Environmental deterioration costs 3.52% of GDP in Morocco annually³. Phenomena such as drought, water shortage and scarcity, sand storms, overgrazing, desertification threat the livelihood of millions of people and cause social changes that are complex in their nature and linked to ecological transformation.

Notwithstanding that Morocco invested a lot in awareness raising and mobilization with regards to climate change within the framework of COP 22 organization, public debates still underestimate climate change impacts and often do not systematically link them with the natural disasters Moroccan society is facing such as droughts, high temperatures, water scarcity, rainfall irregularities, desertification to climate changes.

The analysis of the country's social and ecological transformation means to provide a scientific analysis of the situation of social and ecological change in Morocco; and to contribute to an understanding of the various perspectives, perceptions and insights of issues related to the social and ecological transition. The study is based on documents reviews, desktop analysis, expert inputs and semi-structured interviews; the related references are presented in the annex II.

■ 3. Background

Climate change induced social transformation processes such as an intensification of immigration from rural areas to urban centers; conflicts instead of cooperation and common exploitation of natural resources; loss of community solidarities and familial solidarities; increase of pressure on social and physical urban infrastructures; changes in

social values; and a drop in the number of small farms and the loss of the ecological services and public goods they used to provide.

On the other hand, there are evident ecological and social changes leading to social and ecological transformation as consequences of climate change in Morocco. The challenge for a country such as Morocco is figuring how to shape the climate induced social and ecological transformation in order to manage it and achieve sustainability, resilience and to cope with climate change negative impacts. The most challenging change for Morocco remains the creation of more social injustice due to rising social divisions and unequal income distribution among regions and social categories on the basis of difference in degree of exposures to climate change.

From a theoretical point of view, we could consider social and ecological transformation in Morocco as long-term process. And in order to be able to manage it, it should be measured through long-term observation, study and assessment. This will eventually be the most efficient approach to create genuine responses that address all needs and be more inclusive.

■ 4. Social and ecological transformation in Morocco

Social and ecological transformation is a complex modification to adapt to causes stimulated by one or several natural factors or human interventions that are interdependent from each other. It could also be considered as a process that responds to changes in an ecosystem and communities, where changes might be sudden or long lasting developments. This transformation's aim is to cope with changes in order to naturally maintain survival and to eventually build resilience to cope with calamities. The result of the transformation is a reshaping of a reality form⁴.

Several scholars such as Gunderson and Holling (2002); Berkes et al. (2003); Walker et al. (2004); Folke et al. (2010) do link social and ecological transformation with resilience and adaptability. Further, transformation processes have been conceptualized as going through three key phases: system preparation for changes; management of system transition via a governance set; and resilience development (Folke et al., 2005; Olsson et al., 2006; Chapin et al., 2009).

On the other hand, as argued by Brown et al. (2013), transformation is a concept with diverse, fragmented and contested meanings manifested through personal attitudes, socio-political organization, and socio-economic arrangements levels. Transformation process is subject to the adopted approaches and behaviors that affect the existing socio-ecological system. Brown et al (2013) also suggests that depending on transformation approaches, the process could lead to changes on institutional arrangements, societal norms, cultural values and ecosystem patterns.

Since the end of 1970's, the Kingdom of Morocco started facing natural phenomena caused by climate change such as drought; reduction of pastoral area; and reduction of livestock herds. On the other hand, forest resources decreased and forest area diminished as a consequence of overgrazing. The productivity of non-irrigated agriculture decreased, suffering from the temporal and spatial irregularities of rainfall; desertification started to threaten several fertile areas, mainly in the south and south east of Morocco. This has led to changes leading to social and ecological

³ Please see further details on the following press article at : http://www.huffpostmaghreb.com/2016/11/11/cadre-legislatif-climat_n_12911064.html

⁴ Please see further details on the following article : <http://culture360.asef.org/magazine/walking-for-social-and-ecological-transformation/>



transformation, which could be described, in the Moroccan context, as the change processes to cope with natural calamities and climate change effects and develop resilience.

■ 5. Climate-induced main ecological challenges in Morocco

Several climate-induced ecological challenges threat natural ecosystems and communities' resilience in Morocco. A World Bank study (2010) estimated the global costs of productivity loss in the country as a result of land degradation between € 77 million and € 150 million per year

On the other hand, during the period 1976-2006, the Moroccan territory recorded a general decrease in rainfall estimated between 3 and 30% (depending on regions); and a significant decrease in precipitation during winter season on the eastern region (Sebbar, *et al*, 2011). During the same period, Morocco experienced severe droughts that have been characterized by an increase in the number of consecutive days without rainfall during the rainy season (September-April) of 15 days; and a decrease in precipitation during the rainy season of 23 mm on average (Sebbar, *et al*, 2011).

During the period 1996-2010, Morocco experienced serious flooding; both at the level of their intensity and frequency. These are massive floods that have affected several regions of the kingdom with loss of life and economic damage: Ourika in 1995; Casablanca and Mohammedia in 1996; Tetouan and Northern Morocco in 2000; Mohammedia in 2002; Errachidia in 2006; Al Gharb in 2009 and 2010; Al Haouz and Sous in 2009 and 2010; and Casablanca in 2010.

Further, during the period 1960-2000, Morocco experienced a global average warming over its territory of around 1 degree Celsius (C); and a maximum warming of 1.4° C for the southern region of Morocco; there is also a tendency in rising minimum and maximum temperatures (Dkhis et al., 2015).

Other major environmental consequences are: desertification, that is threatening the south east of Morocco; reduction of forest covers and biodiversity, especially of endemic species such as the Argan tree; decrease in both renewable annual water volume and ground water; in addition, an increase in heat waves frequency and littoral deterioration with its consequences on the littoral ecosystems and coastal cities.

■ 6. Social implications of ecological changes

The climate induced ecological challenges have serious social consequences. There are several examples, but the most recent and very serious is from summer 2017, where thirty-seven cities and urban centers had a water supply interruption⁵. As a consequence, the population went out protesting and called public authorities to find sustainable solutions. Drinking water shortage touched also rural areas in the province of Sefrou, where due to extensive ground water exploitation for irrigation, its level decreased and the wells used for supplying drinking water to rural communities dried up.

In southeast Morocco⁶, there is a rising issue with regards to water quality deterioration; in fact, due to rainfall reduction, reservoir and barrage water is not renewed. Salt level in water increases, as well as the level of clay. Population smells clay odor in supplied drinking water. This has led to demonstrations. To cope with this challenge, middle-class families started shifting their household expenditure to cover buying mineral bottled waters; while families with limited revenues started going to the surrounding areas of Ouarzazate to bring drinking water from wells. This has created a burden on families' budget and working time availability.

On the other hand, due to water reduction in reservoirs supplying irrigation water, large irrigation infrastructures that needed investments of hundreds of millions of euros, are not used any more⁷. This has led to changes in agricultural practices, and a decrease in farmers' revenue. Farmers are obliged to spend more money on irrigation and on fertilizers to correct soil degradation. The use of fertilizers has also impacts on the quality of the products and consequences on human health. Furthermore, the wells that farmers used to exploit for irrigation started to dry up; so they spend more money on drilling and go deeper or drill new wells; this is equally a new burden on farmers' budget. Farmers are also facing new plant diseases due to temperature rise⁸ and they are using more and more chemical pesticides, with potential consequences on human health. Both the increase in using fertilizers and pesticides constitute a risk for soil, surface and ground water contamination. These pressures on farmers have pushed populations to change values and start questioning their future; for example, according to a local civic activist, the rural population from the south east of Morocco started having fear and anxiety concerning the rising climate change impacts.

Meanwhile, the contribution of hydropower to electricity generation in Morocco is decreasing⁹. This led to a higher share of imports of fossil fuels for power plants in the country, or more electricity import from Spain. At the same time, inundations cause huge damages to the physical infrastructures in Morocco.

Loss of agricultural productivity in rural areas induced migration to urban cities; this causes pressure on urban social services and physical infrastructures in cities, creation of townships and rise in small crimes and street vendors. Internal migration of the rural population to the major cities of the country is occurring at an unprecedented pace¹⁰. Large cities such as Casablanca, Fes, Marrakesh and others have seen their urban perimeters grow to respond to demand for new housing as a consequence of immigration, and this urban growth is detrimental to agricultural lands, but is also made in a quite uncontrollable way leading to unsustainable urban development.

Sometimes only men leave from rural areas to work in cities, causing separations of families and cultural changes. A first comparative study on climate change and migration in The Middle East and North Africa region indicates that environmental factors have probably contributed to greater mobility in Morocco, in particular temporary migration, be it either internal or cross-border (Wodon et al., 2014).

In the region of Souss Massa, Camels' herders started bringing their herds from Sahara to this region in order to cope with the disappearance of pastoral resources, which has led to conflicts with local farmers and local communities. Conflicts over resources also decrease solidarity among families' members and communities and create tensions.

⁵ Please see details on the following press article : <http://www.alyaoum24.com/930908.html>

⁶ Information confirmed through interviews with Mr. Hsaine Zghou (Academia and member of regional NGO) and Mr Mohammed Ait Lhadj (youth activist)

⁷ The case of large parts of Doukkala plain; information and data were collected via observation of the irrigated zone of Faregh

⁸ Information confirmed via interview with Mr Yassine Zegzought, an environmental activist in Marrakesh

⁹ For more details, data are available on the international energy agency <https://www.iea.org/>

¹⁰ Please see more details on: https://publications.iom.int/system/files/pdf/policy_brief_vol2_issue3_fr.pdf



There is also a rising issue with regards to grasshoppers due to temperature rise; while data is not available, a young activist from the region of Marrakesh indicated that farmers are more and more confronting grasshoppers due to temperature rise and heat waves. Further, due to temperature and heat waves rise, families spend more time in the house, especially between 11 and 17h. People and especially those who work outside have seen their productivity diminish.

Furthermore, due to a need for quite intensive investments to practice agriculture and cope with rainfall reduction, the number of small farms is diminishing; ecological services and public goods small farms used to provide, are disappearing. In the province of Errachidia, due to rainfall reduction, small farmers abandoned farming activities to work in handcraft activities or tourism¹¹.

■ 7. Regulatory and policy frameworks to promote just social and ecological transformation

The 2011 constitutional reform promotes devolution through participation of local and regional decision makers and civil society, and the integration of environment and sustainable development in local and regional planning. The constitution aimed at responding to the need for more empowerment of local decision makers and engagement of citizens in policy designs and implementation. After the adoption of the organic laws related to regions, provinces and communes, Morocco is witnessing a transition period towards more powers to regional and local councils.

On the other hand, climate change policy framework is included in the national plan against global warming¹² launched in 2009. The plan supports structural changes by focusing on accelerating renewable energy programs, promoting energy efficiency, reducing subsidies to fossil fuels, improving clean coal combustion and increasing the share of natural gas in the energy mix.

One of the key objectives of the national energy transition by 2030 is to preserve the environment as well as the security and health of the population (MEMR, 2009). In addition, the national energy transition aims at training and building capacities of youth in order to prepare them to work on renewable energy and energy efficiency projects. Several laws constitute the cornerstone of the energy transition:

1 Law 13/09 on renewable energy;

2 Law 16/09 on the set up of the national renewable energy and energy efficiency agency;

3 Law 47/09 on energy efficiency;

4 Law 57/09 on the set up of the Moroccan Solar Energy Agency;

5 Law 48/15 on the set up of the national authority for electricity regulation;

6 Law 58/15 on the modification / amendment of the renewable energy law 13/09;

7 Law 36/16 on the modification / amendment of law 16/09 and setting and the Moroccan Agency for Energy Efficiency;

11 Information confirmed through an interview with Mr. AitLkaid M'barek on 12.11.2017

12 Further details are in the following link: <http://www.4c.ma/medias/National%20plan%20against%20global%20warming%20Morocco%202009.pdf>

8 Law 37/16 on the modification / amendment of law 57/09 and setting the Moroccan Agency for Sustainable Energy.

The implementation of the energy transition is focusing on large scale renewable energy projects; whereas, more efforts should be done to promote in parallel the distributed renewable energy projects and structure energy efficiency programs to make more effective and inclusive to most industries, regions and societal categories.

Further, framework Law 99-12 on the Charter for Environment and Sustainable Development sets institutional, economic and financial measures in order to create an efficient and coherent arrangement of environmental governance.¹³ Such arrangement enforces the laws in matter of environment conservation, systemic consideration of sustainability in development policies, and large social and gender inclusion in development.

Law¹⁴ 36-15 on water gives to the wide public the opportunity to participate in the management of water resources by proposing measures and signaling any abuse or mismanagement of water resources. The law also considers citizens' rights to access to drinking water and gender inclusion. However, given the challenges that Morocco starts facing in 2017, it is worth engaging more and more community and civic society representatives in designing the programs to respond to water supply interruptions.

The National Initiative for Human Development, commonly referred to in Morocco as 'INDH', is a development initiative launched by the government in 2005 to address development deficits and territorial and social exclusion. The initiative focuses on the following key targets: poverty alleviation in rural areas; addressing social exclusion in urban areas; addressing extreme social and economic vulnerability; and assuring coherent territorial development. INDH has achieved tangible results in poverty alleviation and in addressing illiteracy, as well as it was a successful through the engagement of civil society associations in the implementation and operation of human development projects.

One of the main goals of the Green Morocco Plan ("Plan Maroc Vert") is to combat climate change and strengthen small farmers' resilience through financial support to shift to crops with high added value and which adapt much better to local climate and soil conditions; use efficient irrigation systems and technologies; and recently the use of solar water pumping systems instead of diesel or bottled natural gas¹⁵. In addition, the Ministry of Agriculture decided to create advisory services (as announced in several Moroccan newspapers in August 2017, the Ministry is currently building staff for this service and hiring, engineers, technicians... etc.) advising small farmers on agricultural practices and assure continuous capacity building.

Furthermore, the Strategy for the Development of Rural and Mountainous Areas ("Stratégie de Développement de l'Espace Rural et des Zones de Montagne") aims at decreasing pressure on natural resources in mountainous and rural areas and at supporting the population to cope with climate change impacts and develop resilience. The government created a fund with 55 billion DH (almost 5 billion euros) to support a national program on the period 2016-2022 to address social and territorial disparities in rural areas. This financial support will allow the implementation of 20 800 projects addressing the needs of 12 million persons in 24 290 villages. These projects will enable rural populations

13 Please see further details in the following link: <https://www.gefio.org/sites/default/files/ieo/evaluations/cpe-morocco-vol2.pdf>

14 Please see more details on : http://www.water.gov.ma/wp-content/uploads/2016/01/Loi_sur_leau_BO_Fr.pdf

15 Please see more details on : <http://drylandsystems.cgiar.org/content/%E2%80%98scaling-up%E2%80%99-through-morocco%E2%80%99s-%E2%80%98plan-vert%E2%80%99>



to cope with infrastructural deficits, mainly in social services and build resilience needed to deal with climate change impacts.¹⁶

In addition, the National Integrated Strategy for Youth ("Stratégie Nationale Intégrée de la Jeunesse")¹⁷ (2015-2030) was developed involving youth and civil society. It aims at ensuring good quality education for youth, access to decent jobs and appropriate health, social and cultural services; reducing geographical disparities; and promoting youth participation in civic life and respect of human rights.

Finally, the new national strategy for employment (2015-2025) targets the promotion of decent employment and strengthening of equal opportunities in access to jobs market. Moreover, its implementation is reinforced by taking into consideration the economic empowerment of women in the development and deployment of several sectorial plans and programs.¹⁸ Morocco is succeeding relatively when it comes to assuring more equal opportunities for women in job market; however, the country faces serious unemployment high rate and there is need to encourage creation of jobs and make sure that employment conditions are decent and respect the national and international employment standards.

■ 8. Societal debate related to climate changes

Debate on climate change was limited among elites in Morocco before the announcement of organizing COP 22 in the country. Afterwards, public authorities encouraged an institutional debate; however, it remained, according to a president of a development center in Marrakesh, a perfunctory debate, more to decorate the organization of a big event than creating a deep consciousness about climate changes and a reflection in considering systematically climate in the decision making processes.

Certainly, the organization of COP 22 in Morocco also animated a societal debate on climate change and the consequent social and ecological transformation. Social debate was led, then, by civil society organizations active in environment, media actors and academia; whereas, the wide public engagement was limited to a part of society that is educated and aware about climate change.

After the COP 22, public authorities started losing the strong interest in participating in conferences related to climate change. On the other hand, agencies and firms competent in renewable energy transition and in sustainable transportation are interested and still participating in the societal debate related to climate change. With regards to social movements, only engaged civil society organizations have continued in advancing or at least maintaining the debate.

On the other hand, whenever there is an extreme event, most of media and wide public don't link it systemically with, or mention climate change as a cause; however, there are exceptions such as the case of the coastal area of Sale,

which suffered from sea rise¹⁹. So far, only few media articles referred to climate change with regards to the protests on water shortages²⁰; whereas political debate around water crisis mentions and refers to climate change as main cause²¹.

Additionally, water cut in Khouribga was discussed by wide public in social media, but there was no significant indication that it might be due to climate change²². At the same time, public debate following protests on water cuts in the province of Sefrou, mentioned the fact that access to water is a human right, however, the debate has not considered or mentioned that it is due to climate change²³.

According to an activist in the local civil movement in southeast Morocco, which is the region most exposed to climate changes, only a small part of society links water scarcity and desertification to global warming and climate changes; whereas, neither local media actors nor local associations do link such variations with climate change impacts. On the other hand, the wide public does not consider that Morocco is seriously concerned by climate changes as the country is not one of the major global polluters and its greenhouses gas emissions are very low.

■ 9. Active actors in social debate related to climate

In a serious debate about climate change and the induced social and ecological changes, one could expect that many stakeholders and individuals voiced their concerns and interest in order to design inclusive strategies and win large citizens engagement. This is still not the case in Morocco, though. Currently, the most active actors in the debate around climate changes and social and ecological transformation are:

- 1 Civil society organizations with strong international connections;
- 2 Specialized Media on environment and renewable energy;
- 3 Engaged scientists researching climate, environment and renewable energies;
- 4 Industrial firms active in green businesses;
- 5 The National Human Rights Council of Morocco (CNDH);
- 6 Moroccan think tanks specialized in green economy and environment;
- 7 The Moroccan Environmental, Economic and Social Council (CESE);
- 8 Communes that are severely exposed to climate change impacts, located mainly in the south east of the country; and,
- 9 Public agencies dealing: with renewable energies such as Moroccan Agency for Sustainable Energy ; with water protection such as Hydraulic Basin Agencies; with forest resources such as High Commission for Water, Forests and Combating Desertification and National Agency for Development of oasis zones and the Argan tree, and the competent ministerial departments.

16 Please see further details on : <http://lematin.ma/journal/2017/le-gouvernement-mobilise-50-milliards-de-dh-pour-lutter-contre-les-disparites-sociales-et-territoriales/273294.html>

17 Further details are available on : <http://www.mjs.gov.ma/sites/default/files/strategie-morocco.pdf>

18 Further details are available on : https://www.finances.gov.ma/Docs/dept/2016/synthese_rg2017.pdf

19 Further details are available on : <http://albahnews.com/%D8%A8%D8%B3%D8%A8%D8%A8-%D8%A7%D9%84%D8%AA%D8%BA%D9%8A%D8%B1%D8%A7%D8%AA-%D8%A7%D9%84%D9%85%D9%86%D8%A7%D8%AE%D9%8A%D8%A9-%D9%85%D8%AF%D9%8A%D8%B1%D9%8A%D8%A9-%D8%A7%D9%84%D9%85%D9%88%D8%A7%D9%86/>

20 Further details are available on : <http://lakome2.com/opinion/29662.html>

21 Further details are available on : <http://htari24.com/categorie/communaute/article/25650-12-03-08-25-07-17>

22 Further details are available on : <http://www.hespress.com/regions/357939.html>

23 Further details are available on : <http://www.maghress.com/assabah/238715>

■ 10. Human rights aspects and social debate related to climate

The state and public authorities consider human rights aspects within the debate on climate change, for example through the appointment of the president of Advisory Council on Human Rights as the COP 22 organization committee coordinator with civil society. The constitution also stresses on human rights and rights to access to water resources, sound environment and to sustainable development outcomes. However, it is worth stating that human rights are rarely mentioned in the limited societal debate around climate change and social and ecological transformation.

■ 11. Social and ecological transformation and the structural changes

. Structural change in Morocco would require from policymakers to put more emphasis on education and the quality of human capital (Achy, 2013). Examples of structural changes linked to the current transformation process, which the Government of Morocco launched, could be described as follows:

- *In the agricultural sector, there is a shift towards more efficient irrigation systems such as drip irrigation, and the use of information technology and knowledge to manage irrigation practices;*
- *The country is also investing in training qualified technicians and engineers, as well as in research and development in the renewable energy and agriculture sectors;*
- *Creation of incubators and the promotion of start-up and innovation in the green economy; and,*
- *The country is also implementing structural change in the energy sector, where renewable energy technologies are being deployed in order to generate electricity instead of fossil fuel based technologies.*

One of the key structural changes Morocco is enterprising, is the renewable energy shift. In fact, the country intends to increase the share of renewable energy in its energy mix and plans to increase the renewable energy installed capacity to 52% of the power mix by 2030. As ambitious as this program might seem, its design and the approach adopted for its implementation are questionable since the design was done without significant engagement of civil society and the wide public, and was limited to participation of technical central agencies and the energy department. Additionally, the implementation of the energy transition is led by public agencies and the current related regulatory framework doesn't enable a wide participation and engagement of small and medium enterprises, households and individuals in generating electricity from renewable energy resources.

Then again, it is worth stating that the planned energy transition could be considered a big step for a middle-income country to assume. However, Morocco would generate huge benefits in case of the adoption of a more inclusive and participatory energy transition, where efficient energy governance mechanisms and structures are being setup.

■ 12. Public debate influence on political decisions

It is, often, the government that proposes law texts, which are being discussed and decided upon by the parliament. Looking at current arrangement, and taking experiences related to decision making processes into account such as the design of regulatory frameworks related to water and energy, it could be stated that only exception and not the

rule when a public debate in Morocco influences policies and strategies. On the other hand, experiences demonstrate that public debates have more chances to be channeled by local elected officials at communal, provincial and regional levels, because there are more interactions between citizens and their representatives at communal, provincial and regional councils.

While in order to address climate change impacts, there has been an initial focus on technical solutions for adaptation and mitigation, more inclusive and comprehensive approaches are needed to address the social and ecological transformation induced by climate change. Such approaches shall be participatory to include the most exposed communities and vulnerable groups as well as civil society movements and the wide public.

■ 13. Socio-ecological solutions and development alternatives that lead to a sustainable and just economy

A sustainable and just economy can be a response to environmental and social challenges, which Morocco faces due to climate changes. In order to found the bases for a sustainable and just economy that meets environmental sustainability and social inclusiveness, Morocco could rely on the following:

1 Build a society of knowledge where intelligent and efficient solutions are integrated, for instance through the development of:

- *Intelligent and efficient solutions in urban development;*
- *Smart grids that enable more integration of renewable energy power plants;*
- *An intelligent and smart traffic management and intelligent urban mobility;*
- *Sustainable and efficient public transportation systems;*
- *Sustainable consumption attitudes, through sensitization;*
- *Attractive energy pricing systems that enable more use of renewable power and efficient management of power demand side for businesses and households; and,*
- *Digitalization as part of the efforts to shape social and ecological transformation as it has a great potential to maximize resources uses efficiency.*

In order to create a society of knowledge, massive awareness raising campaigns shall be promoted in addition to efficient education programs. There is also the need to exploit and promote the use of information technologies for education and awareness raising, and for promoting sustainability as a cultural value. Morocco needs to continue and eventually to improve its literacy program, and also the education and training systems in order to enable more insertion of women and youth in the employment sector and respond to industry needs in terms of skills and competency.

2 Enforcement of the laws; in fact, Morocco has already set a regulatory framework, which theoretically could contribute in achieving sustainability and inclusiveness in several sectors. However, the country still suffers from a low level of law enforcement. The enforcement of laws shall focus initially on the protection of natural resources such as water resources (surface and ground), forest resources and littoral, for which immediate intervention should be done..



3 Morocco needs to invest in mobilizing a large participation of the society and individuals. The country needs to set up and promote active citizenship where the social and environmental obligations of individuals, households and entities are fully assumed. This should lead to a balance between individuals' duties to adhere to general laws and environmental protections on the one hand, and rights for equal access to opportunities and dignity on the other hand.

4 Promote inclusive development by addressing the needs of vulnerable groups such as; youth, women, population of remote areas. Morocco also needs to assure more equal opportunities to access for all, social equity and benefits distribution among all societal categories, and decent employment.

5 Morocco still suffers from socio-economic development deficits, and albeit the great efforts invested in the last two decades to remove social inequalities, there is still a need to address existing disparities among regions. Nowadays, the challenge for the country is to accelerate efforts in addressing development deficits and disparities, but also to address urgently the need for more social equity and for a just transition to green economy and environmentally friendly development in response to climate change challenges.

6 The challenge for Morocco is also to figure out how to stimulate social entrepreneurship. It may indeed resolve the current dilemma of the engagement of civil associations in social development, and it is still only based on a limited contribution to development programs. Entrepreneurship may help Morocco reach the innovation and creativity required for fulfilling a mission of social transformation towards more sustainable values. Same applies for ecological entrepreneurship, which may represent a solution to create jobs and also solve issues related to pollution and waste.

■ 14. Public debate related to sustainable, just, social and ecological development models

The absence of a meaningful debate on a just transition and on social and ecological development models in Morocco is mainly due to the huge unawareness about climate change threats to the country among wide public. The debate is still limited to elite, which deals with climate change issues such as the competent agencies on energy transition and a few NGOs. On the other hand, most of the successful media actors, such as daily, weekly and monthly papers, online papers and radio stations, are private and need to develop materials that are of interest for the audience. Since the wide public is still not aware about climate change, there is no focus on climate change issues and on the challenges Morocco face in the public debate.

■ 15. Recommendations

Social and ecological transformation is induced by climate change impacts. However, it should be shaped through appropriate policies and strategies. In order to shape social and ecological transformation towards sustainability, there is a need to create sound institutional and functional governance, and to set up adequate policies and strategies. A key focus of such policies and strategies shall be the promotion of a society of knowledge, decoupling economic growth from massive resource exploitation, the development of inclusiveness, poverty alleviation and the reduction of social inequalities, and the promotion of solidarity, just values, and sustainable consumption.

Morocco also needs to reshape further the planned energy transition and make it adhere to just transition values, large engagement of public and civil society organizations as well as the creation of decent jobs and fair income distribution. It is worth stating that the Moroccan society and wide public suffer from a lack of deep awareness regarding the seriousness of climate change threats to natural ecosystems and communities. To remedy this, it is urgent and in the interest of the country, its institutions and the civil society movement to launch efficient raising awareness campaigns.



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