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# YES Green Maroc

Organizes, in collaboration with

Faculty of Sciences, Oujda-Morocco

## The 3<sup>rd</sup> Edition of Oriental Days for the Environment

### JOE<sup>3</sup>

Under the title

# Green Lab Solutions for Sustainable Development



### Call for paper

## Topics

- 1' Natural & Environmental Resources
- 2' Pollution & Natural Risks
- 3' Materials Recycling & Renewable Energy
- 4' Green Technology & Sustainable Development
- 5' Education & Eco-Citizenship
- 6' Ecotourism & Wildlife Conservation



### Date & Venue

December 16-18, 2022  
Faculty of Sciences, Oujda - Morocco

To register & participate

- [yesgreen.or@gmail.com](mailto:yesgreen.or@gmail.com)
- [www.YesGreen.org](http://www.YesGreen.org)
- [www.sites.google.com/view/YGM-JOE3](http://www.sites.google.com/view/YGM-JOE3)



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## INTRODUCTORY STATEMENT 1/2

With more than 38 officially recognized sites of international importance, Morocco particularly ranks among the countries with the highest levels of **Biodiversity**, which includes more than **24,000 animal** species and 7,000 vegetal species, with rates of endemism particularly high among Mediterranean countries (**20% for vascular plants, 11% for fauna**). Forest and marine ecosystems are especially rich. Desert ecosystems, although characterized by limited precipitation, present 750 different types of vegetal species, 650 invertebrates (**mostly endemic**), over 250 birds, and at least 40 of the most threatened mammals in Morocco. Finally, **agricultural ecosystems are spread over 9 million ha**, hosting a rich variety of local races supported by traditional knowledge and practices.

Unfortunately, the general trend for **natural resources** in Morocco is toward biodiversity degradation and loss. Threats to this biological diversity in Morocco stem mostly from human activities, economic development, and population growth. They include sand mining, water pumping, **habitat transformation (notably due to droughts)**, **over-exploitation of resources**, **pollution**, i.e. **salinization** affects around 16% of irrigated lands, **erosion**, and the introduction of invasive species. The degradation of important marine areas is due to increased activity (**economic, population, construction**) in coastal areas, water pollution, and overfishing. In the forest environment, threats include the **unsustainable extraction** of non-timber products, **overgrazing** by pastoralists (**almost all forests are overgrazed**), clearing for agriculture, and urbanization.

The urbanized surface increases by **4,000 ha annually**, with more than 60% of the population living in urban areas actually as compared to less than 50% in 2004. Further, open access to forests has had disastrous consequences in terms of habitat fragmentation (**through conversion of forests to agricultural land or to cities, tourism complexes, and roads**). As for natural resources, they are becoming increasingly degraded and their protection is not sufficiently integrated into political decision-making processes.

Hence, the effects of **climate change** are increasingly apparent in Morocco, which has been identified as a very vulnerable country by the 4th Assessment Report of the United Nations Intergovernmental Panel on **Climate Change (IPCC)**. This climate irregularity already has important impacts on Morocco's natural, human and economic systems. Water resources are, especially, under increasing pressure. Nowadays, Moroccan regions are affected by drought, increase in average temperatures, heatwaves, changing rainfall patterns, extreme rainfalls, floods, and sea-level rise. Since the 1960s, an increase of 1°C has been observed throughout the entire country and projections show an increase of 1 to 1.5 ° until 2050 (3<sup>rd</sup> NC Morocco 2016).

**Water shortages** are expected by 2020 and 2050 in some regions, notably **the Southern and Eastern regions (3<sup>rd</sup> NC Morocco)**. Conserving the **water stored naturally in underground aquifers** is a case in point. New policies protect this precious natural resource, while making sure there is enough water to go around to meet the needs of agriculture: an industry that is a critical source of employment.

As for **mineral & metallic resources**, the **geological environment** of Morocco offers qualitatively as well as quantitatively a much of diversified mining base, which makes the country a strategic guarantor for future smart industries at the local or international level. Indeed, these **natural deposits** include phosphate, iron, silver, gold, and lead among others. Thus, Morocco's phosphate reserves are estimated to account for almost 75% of all phosphate reserves worldwide. Despite having the largest phosphate reserves in the world, Morocco was ranked as the second-largest producer of phosphates behind China in 2015. On one hand, the **mining sector** is one of Morocco's essential industries and it accounted for nearly 35% of the country's exports in 2011 as well as 5% of the country's **GDP**. Thus, it is believed that these mineral and metallic industries will continue to grow due to several measures put in place by the country's government. Despite the projected growth, this sector still faces several major challenges such as the fluctuating prices in the global market. In the fact, this industrial field has scored 49 points in the 2021 **Resource Governance Index (RGI)**, placing it in the weak performance band. On other hand, several issues negatively affect the clean valuation of the mining sector. Therefore, the **stability and equilibrium** of several neighboring ecosystems.

To overcome these issues, it is necessary to adopt a reform for the ways with which minerals and metals have been exploited. In fact, it is important to mention that the totality of **mining power plants** in Morocco produces pollution very harmful to the environment and the health of the fauna and flora even than of humans.

The mining waste rocks as well as ash that is produced when raw materials are burned often contain mercury, lead, chromium, and arsenic. Furthermore, these materials also cause microscopic pollution with particles that end up in the lungs and lead to enormous amounts of **human health problems**, such as asthma and bronchitis once in contact or inhaled. Moreover, the veggies in the surrounding areas absorb and accumulate these metals, making the **crops hazardous to human health**. In addition, rain can wash the ash into groundwater and surface water, **contaminating drinking water and food**.





## INTRODUCTORY STATEMENT 2/2

The municipal solid waste management services as another ongoing priority for governments had historically been defined only in terms of “cleanliness,” with limited attention and resource allocation to waste disposal. This situation had led to significant negative economic, environmental, and social impacts and the solid waste sector faced issues on virtually all fronts. The cost of environmental degradation due to solid waste was estimated as the highest (among the highest in the Middle East, and North Africa region). At that time, due to the weakness of the legal and institutional framework and its doubtful financial viability, an integrated and modernized management system proved to be urgently needed. To tackle the solid waste management concerns, the Moroccan government initiated the reform of the sector with the enactment, 2006, of the first Solid Waste Law. The government also approved a 15-year, 3-phase national municipal solid waste management program (PNDM) in 2008, but the challenge was to get the program effectively up and running. Needless to say, even with Morocco’s movement toward a safer and more environmentally friendly solid waste management system, there is still an enormous population of people including children and the elderly who this reform will overlook. Until more is done, including funding initiatives and an increase in education, these people will continue to be exposed to hazardous living conditions because of unsuitable funding, infrastructure, and education.

**Energetically**, Morocco still imports most of its energy to meet its rising **energy consumption**, which increased at an average annual rate of 6.5% between 2002 and 2015. Much of that imported energy is generated from fossil fuels. Concretely, Morocco relies particularly heavily on coal power, which it is expanding along with **renewables**, and around **40% of electricity** in the country comes from coal. Hence, despite Morocco's emissions that are small compared with many more developed nations, burning fossil fuels for energy and cement production are still a big source of emissions in the country. Moreover, even as it seeks to end its dependence on fossil fuels, its **energy demands are rising fast**. At the COP26 climate conference in Glasgow held in 2021, Morocco was among the 20 countries that made a new commitment to building **no new coal power plants**. The country's reputation may be well deserved, but it still faces challenges, thus, its geographical position in a warming hotspot makes it climatically vulnerable. Besides, Morocco has additional renewable resources that are significant and could be developed, which the country has four perennial rivers and many dams with hydroelectric potential. Forecasts estimate wind energy potential at more than 6 GW, the solar heater market at more than 1M m<sup>2</sup>, and highlight the strong potential for biomass enhancement (**over 9 million hectares of wooded areas**). However, the expectations in this field are high among institutional stakeholders, economic players, and consumers. Morocco has a target of sourcing more than half of its electrical energy from renewable sources by 2030 and a plan to have 2,000 MW of wind and 2,000 MW of solar power plants by 2020, looking to add 1.5GW renewable capacity annually. These targets, alongside other climate change policies, helped Morocco be rated the **second most prepared country in the 2018 and 2019 Climate Change Performance Indexes**. However, since the beginning of the 21<sup>st</sup> century, Morocco, through these twelve regions, is facing multiple challenges that continue to erode the stability of several environmental ecosystems, and consequently, several sectors are at the rate of deregulated development.

**Under the wise leadership of His Majesty King Mohammed VI**, Morocco became one of the first countries to protect its natural resources and to deal with any anomaly that could threaten its environmental integrity. In this regard, it is committed to strengthening all the foundations of the country's sustainable development through **wise institutional reforms** aimed at improving the green economic network and social health conditions, thus, accelerating of the pace of **environmental achievements** through **preventive and corrective measures**. It is true that the country's political priorities in this area are underway to implement all the **Sustainable Development Goals (SDGs)**, which are manifested at different levels. However, socio-economic inequalities and several imbalances in access to vital resources continue to increase, highlighting a large part of the population that remains fragile and heavily affected by the **vagaries of climate change**.

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In order to promote innovative solutions for the protection of natural resources whose balance is currently subject to several threats of local or global order (Climate change, Natural risks, over-rational exploitation, etc.), the association YES GREEN MAROC organizes annually an environmental and scientific event called « **The Oriental days for the Environment (ENG) // Journées de l'Oriental pour l'Environnement (FR)**», through which we study the best solutions with high feasibility potential that can solve the problems already mentioned. This event in its third edition **JOE<sup>3</sup>**, which will be held on **December 16-18, 2022, at the Faculty of Sciences, University Mohammed 1st, Oujda-Morocco (in hybrid mode)**, is the subject of a meeting that brings together civil society actors, state and departmental actors, experts and scientists specialized in the field. Thus, in the hope of ratifying the ecological privileges and meeting the requirements of a healthy and sustainable economic growth, as well as the rational exploitation of all the vital resources of the Eastern region or even of the whole country; and the light of the chosen slogan «Ecological scientific solutions for sustainable development», and in the light of the slogan chosen **JOE<sup>3</sup>** which is «**Green Lab. Solution for Sustainable development**», **Hundreds** of scientific participants, researchers, strategists, actors, and institutions specialized in the field, will enrich this important environmental meeting with their knowledge and expertise. In addition to producing **a volume of scientific research papers on environmental studies at different scales**. This edition will award the six best Green Innovative Solutions with (**GIP<sup>2022</sup>**), each in one of the 6 themes that are: **① Natural & Environmental Resources ; ② Pollution & Natural Risks; ③ Materials Recycling & Renewable Energy ; ④ Green Technology & Sustainable Development ; ⑤ Education & Eco-citizenship; ⑥ Ecotourism & Wildlife conservation.**

Finally, a modest book reporting the current state of the environment of the Oriental region of Morocco will be highlighted in collaboration with third parties.





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