

Policy Paper

Mobilizing Decentralized, Participatory Energy Transition in Morocco

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Introduction

North Africa is one of the world's most vulnerable regions to climate change. Severe environmental degradation threatens the scarce natural resources of countries like Morocco in the region and jeopardizes local economic performance, often heavily dependent on natural capital such as agriculture, mineral resources, and fisheries.¹ This in turn entails consequences for human development. Creeping desertification, compromised forest areas, diminishing water resource potential, the sharp degradation of fragile ecosystems like oases and the coast, and high vulnerability to climate change and natural disasters are not only threatening Morocco's rich biodiversity but also the livelihoods, well-being, and health of its people.² Swift action to combat climate change and increase energy security in Morocco must be taken.

Morocco's government has realized the urgency of these issues and has accordingly devoted large sums into climate mitigation and adaptation.³ Morocco is one of the first countries in Africa to champion renewable energy (RE) and to align economic development with environmental protection and sustainable development. Morocco's RE program is one of the most ambitious in the world and is unique in its emphasis on decentralization as a way to achieve sustainable development. While Morocco's deployment of RE relies mostly on large-scale installations, Morocco has also piloted small-scale RE projects that promote sustainable development initiatives centered on civil society's capacities to manage their own affairs. Yet despite Morocco's well-developed guidelines for regional and community-level emphases for decentralization in the MENA region, the country has not applied its own guidelines consistently.⁴ In this paper's analysis, the major challenges to implementing renewable energy projects with local communities through the decentralization mechanism



Noor Ouarzazate is one of the largest concentrated solar power plants in the world, located 10 kilometers from Ouarzazate city in Morocco.

are not sector specific, but relate to the national need for a singular decentralization strategy that is furthered by the quality implementation of Morocco's existing participatory frameworks for sustainable development.

This essay analyzes Morocco's governmental approaches to creating a decentralized management system, particularly as it may impact, and in turn be shaped by, community-based RE and development. Decentralization is discussed in regard to how it may be built alongside the fulfillment of Morocco's Municipal Charter and its commitment to ensure the community planning of projects, as well as with an enhanced National Initiative for Human Development, the government's flagship funding program for local sustainability. Recommendations are given as to how Morocco may accelerate community-managed RE by achieving decentralization assisted by effectively implementing existing national structures for the people's development.

Morocco's Energy Sector - Current State

Morocco's energy sector is carbon intensive. Fossil fuels account for almost 90 percent of Total Primary Energy Supply (TPES), with oil constituting 62 percent of TPES in 2017, followed by coal (22 percent) and natural gas (5 percent).⁵ As Morocco does not produce any of these resources in a significant capacity, the Kingdom is heavily dependent on energy imports. In 2017, total energy imports of Morocco accounted for 95 percent of TPES.⁶ Hence political unrest in supply countries often affects Morocco's energy sector, subjecting it to price shocks and fluctuations in external supply patterns, which can lead to domestic fuel insecurity.⁷

As a result of population growth, economic development, and the achievement of near universal access to electricity, the demand for and generation of electricity have increased dramatically in Morocco, with electricity consumption projected to double by 2025.⁸ To fuel increasing demand, electricity generation in Morocco has grown by 65 percent over the past decade, with fossil energy—especially coal and gas—accounting for 82 percent of the total electricity generation.⁹ Electricity imports from Spain and Algeria, which account for 14 percent of the total electrical supply, help with meeting the rising demand, in particular peak demands.¹⁰ Although the bulk of power generation is still produced from fossil fuels, RE sources have risen to almost 16 percent of total electricity generation.

In an effort to reduce the country's dependence on energy imports and lessen the share of fossil fuels in energy generation to combat climate change, Morocco aims to increase the share of electricity-generating capacity from renewables to 42 percent by 2020 and 52 percent by 2030. Combined with this is Morocco's goal to reduce energy consumption by 12 percent by 2020 and 15 percent by 2030 through enhancing energy efficiency.¹¹ To achieve these ambitious targets, the Ministry of Energy, Mines, Water and Environment (MEMEE) has created

an institutional and legal framework for RE that attracts national and international investment, research and innovation.

In 2010, Morocco adopted Law 13-09, also called the “RE Law”, which “gives any producer of electricity based on RE—private or public—the right to be connected to the medium, high and very high voltage national electricity grid.”¹² This law was then amended and completed by Law 58-15 in 2015, which introduced a “net metering scheme for solar and wind power plants connected to the low, medium, high, and very high-voltage grid, as well as allowing RE producers to sell surplus electricity to the grid.”¹³ These legal decisions led to the creation of the Moroccan Agency for Sustainable Energy (MASEN), which is responsible for the deployment of RE across the whole value chain. For national and international investors, MASEN's institutional framework offers a single point of contact bringing together authorization, acquisition of land, financing, and attaining a state guarantee for the investment.¹⁴

Furthermore, Morocco has set in place a considerable number of green energy initiatives, including Program Noor: The Moroccan Solar Plan, and the Moroccan Integrated Wind Program. Program Noor aims to increase the installed solar power capacity from photovoltaic (PV) and Concentrated Solar Power (CSP) to 2000 MW by 2020 and to a total of 20 percent of installed capacity by 2030.¹⁵ To achieve this goal, large-scale installations were built, including the world's largest solar power plant, Noor, in Ouarzazate, which innovatively combines CSP and PV technologies. The Moroccan Integrated Wind Program aims to increase the country's installed wind power capacity to 2,000 MW by 2020 and up to 20 percent of all installed capacity by 2030.¹⁶ As a result of Morocco's many successful RE initiatives, electricity generation from wind and solar PV are now competitive with the price of fossil fuel-based electricity.

Decentralization in Morocco - Current State

Decentralization constitutes a central part of Morocco's sustainable development agendas. With the launch of the National Initiative for Human Development (NIHD) in 2005, the Decentralization Roadmap in 2008, the unratified Decentralization Charter of 2019, the participatory development emphasis in the nation's Municipal Charter, and the constitution of 2011, Morocco has committed to concentrate decision-making at sub-national levels on a range of human affairs.

The NIHD aims to provide access to sub-nationally managed funding for local development projects like infrastructure, capacity-building, and job-generating activities.¹⁷ Each successful community project that incorporates multi-sectoral partnerships advances decentralized management arrangements. Agencies of the public and private sectors work together to assist creating local projects, while national-level institutions provide authorizations, policy advice, and financing, resulting in networks that support an administrative system which promotes decentralized development. This framework is intended to catalyze and further the growth of these public-private collaborations whose purpose are to help meet local community needs.

The Moroccan government approved the NIHD budget through 2023 in September 2018 at \$1.9 billion.¹⁸ The NIHD should bring into fruition the community-determined projects designed consistently with the participatory requirements of the Municipal Charter. The NIHD and the Municipal Charter will work best when coordinated appropriately. The application of development planning assisted by locally elected officials, as called for in the Municipal Charter, is intended to result in new local initiatives that are designed over the course of community meetings, which are then to be funded by NIHD.

This participatory approach prioritizes and designs projects by involving all sectors of the general public and ensuring equity for rural and urban disadvantaged groups. This approach is premised on the idea that the overall development process is driven by communities who are engaged in every step- from identifying challenges to finding innovative solutions, managing projects, monitoring and evaluating results, and finally reaping the communal benefits of the projects. Under this framework, resulting initiatives directly satisfy communities' needs and have the opportunity to be well suited to local social and environmental conditions.

However, this is unfortunately not happening to the necessary extent in Morocco, as the NIHD is falling short of national goals.¹⁹ Government officials in Morocco recognize that the vast majority of local officials in Morocco are not trained in facilitating participatory democratic procedures for development planning, which hinders the NIHD from being maximally effective.²⁰ The NIHD will be able significantly advance local growth if it is allowed to fund the range of projects that communities decide to prioritize, whether in health, education, agriculture, construction, or something else.

In the past, the NIHD's criteria for preferred projects has changed frequently, while rural community priorities have remained consistent, such as establishing preschools, drinking water towers and irrigation canals, and production facilities and equipment for local cooperatives and associations— another discrepancy between the initiative and the will of the people. Finally, the NIHD requirement that finance recipients invest 30 percent of the total project costs on their own is another major barrier to civil society's participation in this program, which means that the amount of co-investment must be reduced.



Women empowerment training for women and girls in Yousseufia in Morocco, facilitated by the High Atlas Foundation. The empowerment training aims to enable participants to create the life they most want and to strengthen women as rights holders by providing tools to advocate and act on their needs and goals.

The Decentralization Roadmap, established the King of Morocco through a series of public statements starting in 2008, integrates three pillars to empower regions, provinces and municipalities: devolution, de-concentration and delegation.²¹ The aim is to utilize ongoing national level engagement (devolution) along with sub-national partnerships (de-concentration), to help implement community projects (delegation).²² The strategy for building a decentralized system that the Roadmap encapsulates rallies the different administrative tiers and partnerships at all levels in order to achieve development projects identified at the community level.

Morocco's future sustainable development success depends upon building the ability of everyday people to facilitate activities or methods that help community groups identify and assess development projects. Appropriate and lasting construction of decentralized systems must proceed in conjunction with the implementation of community planning, projects, and partnership-building between the public, private, and civil sectors. The decentralized, multi-sectoral approach is self-reinforcing. The organic evolution of the system continues to expand from the administrative tier closest to the

people (which in Morocco is the municipality) toward higher tiers (provincial, regional, then national) when community groups federate, motivated by shared interests and goals. While positive instances of these occurrences in Morocco have occurred, there has been only limited systemic implementation and impact.²³ The forging of what amounts to a bottom-up building of a decentralized system takes constant facilitation of inter-sectoral collaboration, including between institutions at different administrative tiers.

Decentralization therefore has not yet significantly taken hold in Morocco. During the fall of 2018, the King of Morocco tasked the government to submit a draft Decentralization Charter, which has now been developed and would ideally bind national and regional government agencies to specific functions for the administration of human services.²⁴ The Decentralization Charter alone will likely fall short of enabling the system of sub-national development management to fulfill its promise for local Moroccan communities. With their different administrative level emphases and without description of the nature of these relationships, the Roadmap and Charter are difficult to reconcile together. Indeed, clarity and

simplification on this matter— whether the charter will take precedence over the Roadmap or vice versa, and how the two may work in tandem in a given region— are necessary for effective and consistent application.

Furthermore, advancing decentralization quickly without focusing on equitable distribution of benefits will create severe consequences, like further entrenching the locally affluent and political classes.²⁵ Genuine implementation of the Municipal Charter and NIHD could lead to a participatory, or local community-centered, construction of decentralized management. At present, molding this kind of system would require greater support and practical experiences for local communities and associations in guiding projects that incorporate multi-sectoral partnerships.

Morocco's Municipal Charter requires locally elected representatives to create one-, three-, and five-year development plans derived from local people's collective analysis of their conditions, evaluation of opportunities, consensus around plans of action, and decisions regarding projects they control. The Charter entrusts municipalities with the management of a wide range of key services for which they require greater capacities to effectively deliver, including the distribution of electricity, water and sanitation, roads, urban transport, public lighting, solid waste management.²⁶

The Municipal Charter could be a major gateway for equitable and sustainable development to become a reality since local beneficiaries' control of project management is paramount for socio-economic and environmental sustainability.²⁷ However, in Morocco there is a constant challenge that ends up stagnating the drive of local community members from analyzing and creating the development change they seek: elected members of municipal councils, who are responsible for facilitating planning with local residents, typically are not trained in applying the participatory activities that generate the technical, qualitative, and feasibility related information in order for the participants thoughtfully plot their project path forward.

Representatives and community members would benefit from applied learning workshops organized by government, civil society, universities, and socially responsible businesses to provide them the real experience needed to effectively fulfill the development-related articles of the Municipal Charter. Having elected officials learn and work alongside ordinary members of civil society in this cohesive way also gives an opening for them to discern how RE can be integrated into people's development projects.

Finally, the ratification of the Constitution in 2011, which was backed by a public referendum, enshrined the rights of citizens to participate in decision-making and administration, and embodies this within the social and political structural system of "advanced regionalization" that makes the twelve regions of the country distinct governing bodies that adheres to and fulfills public law.²⁸ With this ratification, Morocco has set the stage for community-managed development to become widespread.



Morocco's Approach to Decentralization of the RE Transition

Most RE projects in the Kingdom are large-scale and government-led, which is indispensable to meet the energy demand of Morocco's population. However, these projects need to be complemented by decentralized, small- and medium-scale RE project installations for a coordinated energy transition that will benefit local Moroccan communities and use resources sustainably.²⁹ As part of Morocco's rural electrification campaign, for example, 3,600 of the 40,000 villages that have been provided access to electricity profited from decentralized PV installations and mini grids.³⁰

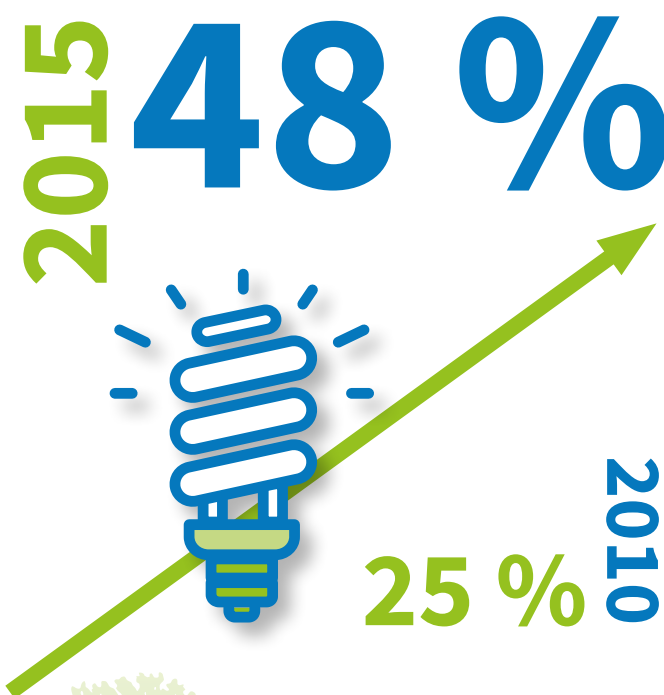
Additionally, Moroccan officials inaugurated the first fully solar-powered village in Africa near Essaouira in October 2019. The village is completely autonomous and is not connected to the national power grid, yet the twenty households are powered solely by thirty-two PV solar panels, which generate 8.32 Kwh of electricity. This project represents a successful example of decentralized cooperation between government agencies like Morocco's Energy Ministry (MEMEE) and the Moroccan Agency for Sustainable Energy (MASEN); Essaouira's local authorities; and Cluster Solaire, a consortium of solar energy stakeholders from the private and business sector, with project-specific financing coming from French companies Intermarché, Le Petit Olivier, and other partners.³¹

With prices of RE technology becoming competitive with fossil fuels, many communities, especially in rural areas, are realizing the value of investing in RE, particularly in solar PV systems for heating water and irrigating their fields. In the rural Haouzia commune, the installation of solar-powered water pumps has provided water for a school that previously was connected to neither the water nor the electricity grid and had no sanitary infrastructure. The availability of water in this school prolonged girls' education significantly,

bringing the female percentage of total enrollments to 48 percent in 2015 up from 25 percent in 2010.³²

Small-scale RE installations that are well adapted to communities' needs can have multiple, wide-reaching benefits for human development. Local projects that enhance the provision of clean water and energy in rural Morocco, two resources that traditionally rely upon the labor women and girls who fetch water and gather fuelwood, free up a considerable amount of women and girls' time, which directly enhances their participation in formal and informal education, cooperative formation, and other income-generating activities.³³

Female percentage of total enrollments



Way Forward

In order to advance the decentralization of the energy transition, Morocco must take additional steps to promote necessary partnerships, guiding frameworks, and funding for RE. Cross-sector partnerships can define and coordinate common interests and goals, establish trust, and enable information-sharing between businesses, public agencies, civil society, and science and research institutions. In doing so, transformative changes that could not be achieved by individual actors alone become feasible. Empowered local communities would identify and manage projects to meet their energy and human development needs, create business models for more innovation and to generate reinvestment in community priorities, and develop new technologies and instruments. Securing these dynamic outcomes involves synergizing the municipal, regional, and national tiers, involving the MEMEE and the Ministry of Interior to enable the development and exchange of best practices in approaching the decentralization of RE.

Just as multi-sectoral partnerships require external facilitation to bring parties together, so do the Moroccan government's administrative tiers. Morocco's Ministry of Environment is in a prime position to create the cross-sectoral and multi-tiered partnerships that embody decentralized management systems. The Ministry of Environment can catalyze joint planning of sustainable development that properly incorporates the diverse organizations that can interject social, cultural, financial, and technological considerations into program design.³⁴ This ministry can contribute helpful information to the analyses and action planning among regional, provincial, and municipal partners that can then be used to carry out macro socio-economic and environmental policies that advance sustainable development.³⁵ Furthermore, through its relationship-building, the ministry could also create opportunities to strengthen the planning and managerial capacities of civil and public servants and agencies that will result in decentralized development programs, particularly through sharing information about available government and other resources to the relevant parties.³⁶

Regional Cooperation

1

Morocco promotes "South-South" cooperation and, in doing so, has established economic partnerships and strengthened political ties with African countries to the south, including Senegal, Mali, Côte d'Ivoire, Gabon, Guinea, and Mauritania to work toward its renewable energy goals. Many Moroccan national agencies like the Office National De L'électricité Et De L'eau Potable are already operating in several African countries, and between 2003 and 2013, Morocco's exports to African countries have quintupled. Improved trade relations and infrastructure allow for Morocco to function as a trading hub for RE-based electricity, capacity-building, and innovation in Africa. Strengthening this regional cooperation even further can increase investment interest for companies looking to break into the African market, which would be able to utilize Morocco as a stable entry base. This could improve African financial cooperation and regional unity, since these open regional bloc economic conditions (occurring within the wider globalization context) can lower interest rates and inflation while maximizing production.³⁷

Regional agreements could then promote cooperation on other regional challenges, such as pollution, immigration, and accountability. As regional economic integration deepens, the public's political identity in cooperating nations could also evolve over time beyond that of any individual nation.³⁸ This dynamic process of enhancing regional integration could enable Morocco to further expand its investment in community-level projects, including in RE, on the African continent. For example, working together with groups like the Organization of Islamic Cooperation can bring together sub-national government and civil groups for integrated-themed workshops relevant to a number of sectors, such as participatory natural resource management, decentralized development arrangements, and community planning of socioeconomic and environmental initiatives. The diverse partnerships built through experiential capacity-building can be parlayed to become vehicles for new and expanded localized RE and human development initiatives.



Solar-powered drip irrigation is a zero-emission technology that provides water efficiently for agricultural use.

From Regionalization to Municipalization

Morocco's Decentralization Charter establishes clear parameters for how the national and regional levels work together. However, it is less clear what role the provinces and municipalities play in the system. Often, regional public administrative centers in Morocco remain distant from the dispersed communities of their jurisdictions, which can slow down decision-making processes, lead to the development of initiatives that are not well adapted to local contexts, and impede civil society's ability to participate in decision-making that affects their everyday lives.

Pivoting in some measure from “advanced regionalization” to further devolving power to the municipalities could improve management of people-centered initiatives, such as small-scale RE projects. However, devolution without commensurate people's participation in development planning and implementation could potentially lead to further social inequality in terms of gender, class, and age at the local level

by allowing the current local power structure to simply further entrench existing social relationships and inequalities.

Additionally, clarifying the functions and responsibilities of the sub-regional levels for decentralization could improve action-planning and decision-making. For example, it would be efficacious if the projects composed in the municipal development plans were aggregated and then submitted to the Regional Councils. These councils are ideally made of representatives from all the regional public and private agencies that interface with RE and human development, and can be coordinated with the assistance of the Ministry of Environment. The councils can take the primary lead in appropriating the funding of the NIHD consistent with the commonly community-determined projects in their regions. They could also provide financial and technical support from other sources, including internal support from the ministries represented, for realizing the local initiatives.

Provision of Climate Finance

3 Lastly, in order to put small- or medium-sized, decentralized, and people-centered projects to scale, there must be available funding that is accessible to local communities and their civil associations.³⁹ Despite Morocco's excellent RE potential and the growing RE market, financial support is often lacking because these projects lack a credit line specific to RE or designated adequate finance.⁴⁰ Private sector investment in decentralized projects is also lacking due to the innovative nature of such approaches and the absence of guaranteed investment returns.

Generally speaking, risks are mitigated in decentralized participatory projects in two primary ways. First, risk is shared. This is accomplished by project inputs, such as funding, labor, and technical provisions, for example, being expended by the multiple partners. Therefore, if a project were to fail, no one individual, partner, or entity endures the entire loss. Second, risks are reduced because of the adaptability and resiliency of participatory projects. The key component of successful interactive group dialogue is the sharing of information by the parties, providing a basis for collective decisions to be made. Risks are mitigated from the process of creating and maintaining decentralized community projects. Nonetheless, the affordability of RE technologies remains a challenge for the majority of communities and small businesses in Morocco. Raising awareness among local financial institutions about the opportunities of decentralized, small-scale and people-centered approaches and their associated benefits is necessary to help mobilize

support and to make funding easily accessible for local communities. In addition, measures that promote domestic and foreign investment are needed in order for public-private partnerships to partially assume costs, risks, and benefits.

A relatively unexplored financing mechanism for decentralized RE projects is climate finance like the Green Climate Fund (GCF) and the African Renewable Energy Initiative (AREI). GCF's mechanism enables organizations in developing countries to directly access funding in the form of grants, loans, equity, or guarantees without international intermediaries.⁴¹ To date, Morocco receives funding for six projects from GCF. These projects include water conservation, the development of Argan orchards in degraded environments, irrigation development, flood management projects, and RE. In 2019, Morocco strengthened the partnership with the GCF, making this a good time to explore the GCF as a financing mechanism for decentralized RE projects.

Another potential funding mechanism is the AREI. For example, the solar complex Noor is partially funded through the AREI. Aspiring to achieve transformative change, the AREI might well be the perfect funding mechanism for small-scale decentralized projects. With its commitment to everyone's access to RE on the Continent, to local economies, and marginalized people's needs especially, this dictates its practical strategy to invest in local capacity-building and the range of RE approaches that are appropriate in the vastly diverse settings.

Conclusion

Morocco's considerable RE potential presents an important opportunity to address the climate crisis. Large-scale implementation of renewables is indispensable to meet Morocco's energy needs, and they should be accompanied by small-scale RE solutions to contribute to poverty reduction. Promoting the use of decentralized, participatory, and community-centered

RE can allow Morocco to become the world's climate leader and the first country to propose a different model for energy and electricity issues. However, this approach requires the development of policy and regulatory frameworks as well as new forms of cooperation and the fostering of opportunities for potential investments. Setting clear political goals is essential to secure investments, stakeholders' mobilization, and resources allocation. This highlights the fact that a strong political will is indispensable for driving the decentralization of RE.

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High Atlas Foundation



The High Atlas Foundation is a Moroccan association and a U.S. 501(c)(3) nonprofit organization founded in 2000 by former Peace Corps Volunteers committed to furthering sustainable development. HAF supports Moroccan communities to take action in implementing human development initiatives. HAF promotes organic agriculture, women's empowerment, youth development, education, and health. Since 2011, HAF has Consultancy Status at the United Nations Economic and Social Council. HAF is dedicated to local initiatives that community beneficiaries determine and manage:

Sustainable agriculture: Nurseries of fruit trees and wild medicinal plants, irrigation infrastructure and efficiency, organic certification, technical skills-building, carbon sequestration, and commercialization

Education: School infrastructure, gardens, and environmental stewardship

Health: Clean drinking water and waste management

Women's and youth empowerment: Self-discovery, human rights, and cooperative development

Capacity-building: Participatory planning and project, organizational, and environmental management

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