



## CONNECTING THE DOTS:

# Policy Innovations for Food Systems Transformation in Africa



**M**orocco has made significant progress in meeting its food and nutritional demands from domestic production. It has done so by encouraging the development of its agricultural sector and agrifood industries. Recent estimates show that the agricultural sector, including livestock, contributes nearly 15 percent to GDP and accounts for 23 percent of exports, more than one-third of the country's total employment, and about 80 percent of rural income.<sup>1</sup> The resilience of the agricultural sector has been strengthened by the promotion and expansion of irrigation, improved water management techniques, and land restoration programs. Nearly 20 percent of Morocco's arable land is currently equipped for irrigation, making its agriculture more resilient to climate shocks and environmental degradation.<sup>2</sup> Morocco's overall food security and nutrition have also significantly improved compared to many other African countries.<sup>3</sup> Between 2000 and 2020, Morocco's score on the Global Hunger Index fell by 43 percent (from 15 to 9), while the proportion of wasted and stunted children decreased from 4 to 3 percent and from 25 to 15 percent, respectively.<sup>4</sup> Such achievement is partly due to the government's actions at the institutional, policy, and programmatic levels to transform the country's food systems and to achieve sustainable and healthy diets for all. The Moroccan government has built on a "territorialization approach", in which policies and interventions



are tailored to physical, human, financial, institutional, and cultural resources in each locality or territory. The government has promoted and supported better access to inputs and technologies for increased agricultural production and value addition along food value chains, doing so through aggregation, contract programs, and incentives to stimulate private sector investment. Morocco is facilitating access to financing, particularly for smallholders, and is encouraging entrepreneurship along the value chain. It is also promoting the participation of youth and women in agribusiness in order to drive equity and inclusivity, and to that end it has undertaken dedicated measures such as capacity strengthening. As a result, there are more than 2,000 small and medium-sized enterprises in the agribusiness sector.<sup>5</sup>

## INSTITUTIONAL INNOVATIONS

Several government institutions are working toward transforming Morocco's food systems. While the Ministry of Agriculture and Fisheries holds the primary responsibility for overseeing the development and implementation of national policies on agriculture and rural development, this is done in partnership with Regional Offices of Agricultural Development (ORMVAs) and the Agricultural Development Fund (FDA). Morocco has also established institutions for attracting private sector investments, easing access to finance for farmers, expanding the provision of extension services, improving food safety, and creating jobs in the agrifood sector, particularly for women and young people.

### Providing decentralized and targeted services

#### Regional Offices of Agricultural Development

Regional Offices of Agricultural Development (ORMVAs) are public institutions that were created in 1966. They have legal status and enjoy financial autonomy under the supervision of the Ministry of Agriculture and Fisheries. They play a significant role in increasing Morocco's agricultural resilience, primarily through irrigation development. They also oversee technical studies, project execution, management of hydro-agricultural equipment, management of water resources for agricultural use, and dissemination of new farming technologies. ORMVAs also oversee the operation of digitalized irrigation systems and have been equipped with clear procedures and guidelines for the planning, programming, operation, and maintenance of irrigation systems. This enhances the technical capacity of engineers to conduct computer-assisted maintenance and to invoice for water used for irrigation.<sup>6</sup>

#### Agricultural Development Agency

Guided by the Plan Maroc Vert (PMV) (see Policy Innovations below), the Agricultural Development Agency (ADA) develops action plans and provides solutions that address agricultural needs at the local and national levels. The national agency, created in 2009 and supervised by the Ministry of Agriculture and Fisheries, proposes action plans to support smallholder subsistence agriculture.<sup>7</sup> Drawing on financial backing from the Agricultural Development Fund, the ADA implements economically viable projects to raise productivity, such as land restoration and the cultivation of high-value crops. To support more resilient and productive agriculture, the ADA has developed a comprehensive portfolio of projects and programs related to climate change; these include conservation and reforestation programs and agricultural management projects which together are worth approximately US\$ 33 million, an amount which has been financed by bilateral and multilateral organizations.<sup>8</sup> The ADA also promotes agricultural value chain development by supporting the adoption of new irrigation systems, mechanization, better packaging, and improved marketing of agricultural products. The ADA also supports investors seeking to join the agricultural sector by providing them with information, advice, and guidance on project selection.

#### Reformed and tailored extension services: National Office for Agricultural Advisory Services

The creation of the National Office for Agricultural Advisory Services (ONCA) in 2013 was the culmination of a long reform process whose aim was to reduce the technical assistance gap in the agricultural sector in order to update the quality, planning and delivery of extension services, and to reduce the gender and age disparities within the existing system. The new institution reflects the government's commitment to reviving public agricultural extension services, strengthening links with the research system, and tailoring themes and messages to different audiences, especially youth, rural women, and family farms. In addition to information on farming practices, ONCA also shares knowledge on how to access the support structures and financial aid provided by government. It was also mandated to create 10,000 new farmers cooperatives between 2015 and 2020 in order to support national agricultural aggregation ambitions.<sup>9</sup>

ONCA uses modern practices of extension services and knowledge management; these include farmer field schools, virtual knowledge networks, call centers, and production and distribution of audiovisual materials.<sup>10</sup> In 2018, the institution had 300



decentralized support centers and 1,000 extension workers.<sup>11</sup> The decentralized operating model of ONCA is in line with the country's territorialization approach in which policy interventions are adapted to each geographic area, its existing asset base, and its development potential. Fifty provincial agricultural advisory services and about 300 local agricultural advisory centers have been created within provincial service provision.<sup>12</sup> In 2015, private consultants also gained legal permission to provide extension advice alongside public sector personnel.

#### Guaranteeing food safety: National Office for Health Security of Food Products

Created in 2009, the National Office for Health Security of Food Products (ONSSA) provides technical assistance on food safety. It regulates food safety across food systems, specifically with regard to animal and plant sanitary and phytosanitary requirements. Although ONSSA is housed within the Ministry of Agriculture and Fisheries and has legal status and fiscal autonomy, it operates through a decentralized model; it has one central office, regional and provincial structures, and inspection services and analysis laboratories.<sup>13</sup> ONSSA ensures the compliance of agricultural inputs, veterinary drugs, and animal feed with national quality standards. It also monitors the conditions of production, storage, preparation, processing, transport, and sale of locally produced and imported animal and plant products to ensure that they are safe for human consumption.<sup>14</sup> Some of its interventions include the identification of livestock using electronic technology such as radio frequency identity tags.

#### Financing and Insuring Food Systems

##### Agricultural Development Fund

The Government of Morocco has supported the development of credit services for smallholder farmers, showing its commitment to ensuring equity and inclusivity within Morocco's food systems. Established in 1986, the Agricultural Development Fund (FDA) aims to promote private investment in the agricultural sector. With direct input from state funds, the FDA offers targeted incentives such as subsidies to support the uptake of irrigation and the intensification of the production of fruits and vegetables such as dates, olives, citrus fruit, and early vegetables. It also works to improve the performance of the livestock sector (including cattle, poultry, and camels) through improved breeding and development of downstream activities.<sup>15</sup> The FDA thus serves as an instrument for the implementation of government policy in the agricultural sector and as a means for leveraging investments; it thereby contributes to economic

growth and the improvement of farmers' incomes.<sup>16</sup> In 2019, the fund offered incentives worth MDH 8.6 billion (US\$ 898 million), of which 58 percent was taken up by farmers with holdings of less than 10 hectares (ha). The fund's expenditure rose to MDH 9.7 billion (US\$ 1 billion) in 2020 and is expected to exceed MDH 10 billion (US\$ 1.04 billion) in 2021.<sup>17</sup>

#### The Morocco Credit Guarantee Corporation

The Morocco Credit Guarantee Corporation (CCG) is a public financial institution that was created in 1949. It helps to boost private initiatives by encouraging the creation, development, and modernization of businesses, including agrifood small and medium-sized enterprises (SMEs); it does so through guaranteeing loans and through financing and cofinancing projects. By lowering the eligibility criteria for opening accounts and accessing credit, the CCG plays an important role in providing access to finance for rural youth. In particular, the CCG provides guarantees for women and young entrepreneurs who are planning to start micro or small enterprises. It shares risks with other institutions in the financial sector in order to facilitate access to finance. Since 2009, it is the sole player in the national institutional guarantee system in which the Moroccan state plays a central role.<sup>18</sup>

#### An innovative financing institution for agriculture: Tamwil El Fellah

In 2010, a new innovative financing institution, Tamwil El Fellah (TEF), was developed by the Groupe Credit Agricole du Maroc (GCAM), formerly Morocco's Agricultural Development Bank. GCAM partnered with the Government of Morocco to provide financial services to smallholder farmers without access to collateral. Loan limits were set at 25 percent of the farmer's income or US\$ 10,000, whichever was less. No more than 20 percent (US\$ 2,000) of the amount could be expended on inputs and working capital, and no more than 80 percent (US\$ 8,000) could be spent on other investments. In return, TEF provides a partial guarantee program which is underwritten by a risk coverage of 60 percent by the government. For credit risk assessments, TEF does not require collateral from smallholders; instead, it assesses other performance indicators such as the client's previous credit history and repayment behavior. The duration of loans was also modified to accommodate the longer and seasonal characteristics of agricultural financing. By extending the periods during which a loan could be considered pre-doubtful, doubtful, and compromised, to 12, 24, and 36 months, respectively, GCAM was able to better manage its risk levels and reach a broader range of clients



without damaging its liquidity and impacting other bank subsidiaries.<sup>19</sup> TEF also promotes productivity-enhancing and low-risk investment in, for example, irrigation and mechanization, through facilitating credit for these investments. The financial services are complemented by technical assistance, including extension services, advice on investment planning, and programs that provide specific subsidies.<sup>20</sup> By 2015, TEF operations had broken even. By 2016, more than 67,000 smallholders had received loans, and the loan repayment rate at the end of the term was 98 percent. About 70 percent of the loans had been granted to finance investments in dairy farming, irrigation, farm equipment, and tree planting.<sup>21</sup> Particularly popular reasons for borrowing also included crop conversion to higher value production such as olives, almonds, and figs, diversification to off-farm and processing activities, and intensification. By October 2015, interestingly, over 1,800 irrigation projects using solar water pumping systems had also been financed. The model has been so successful that it was also extended to SMEs.<sup>22</sup>

#### Agricultural insurance: The Mutual Moroccan Agricultural Insurance Company

The Mutual Moroccan Agricultural Insurance Company (MAMDA) was founded in 1963 to protect the country's farmers against weather-related risks. Holding over 70 percent of market share, MAMDA is one of the most important players in the sector. It offers insurance products covering the entire agricultural sector including the farmer, the farm, crops, livestock, and equipment. It has also set up a multi-risk climate insurance product that protects policyholders against a variety of risks such as drought, hail, frost, strong winds, sandstorms, and flooding. With premiums subsidized by the government by up to 90 percent, these products are extremely attractive to smallholder farmers.<sup>23</sup> MAMDA has also streamlined the compensation process by investing in a network of over 200 agricultural experts and cutting-edge information systems such as satellite tracking, geolocation, and automated payments. These efforts have made it possible to double the penetration rate of agricultural insurance in Morocco within five years.<sup>24</sup>

#### Employment and Skills Development

##### Training and education institutions

The Moroccan government is committed to improving employment opportunities for women and young people in agribusinesses. To improve the uptake and efficiency of agribusinesses, it aims to establish a network of 52 institutions with 24 different curricula across the country. Eight secondary schools

prepare young people for the baccalaureate degree in agricultural sciences, and 30 middle schools in rural areas are dedicated to training young people in agricultural technology. The training seeks to improve overall understanding of the various employment and business opportunities within the agricultural sector, and it encourages young people to pursue studies or training in this area. All agricultural vocational training institutions provide apprenticeships to improve the employability of rural youth who are not in school but have basic literacy skills. Since 2015, more than 10,000 young people annually receive training in 20 professions.<sup>25</sup>

#### National Agency for the Promotion of Employment and Skills

The National Agency for the Promotion of Employment and Skills (ANAPEC) is a public institution with fiscal autonomy that was created in 2000. ANAPEC contributes to the design and implementation of skills development and employment promotion programs, including in the agrifood sector. In conjunction with employers and training establishments, it sets up vocational training programs to prepare young people for integration into working life. ANAPEC works with potential employers to define their skill needs, collating job offers and accepting applications. It also matches employees to job openings, provides them with relevant information, and supports their orientation process. ANAPEC also guides young entrepreneurs in realizing their economic projects.<sup>26</sup>

#### Social Development Agency

In 1999, the Social Development Agency (ADS) was created under the Ministry of Solidarity, Social Development, Equality and Family. It was set up as a public agency with legal status and fiscal autonomy, and with a mandate to initiate and support programs intended to sustainably improve the living conditions of the most vulnerable populations, including smallholders. It finances income- and employment-generating activities such as food processing and local restaurants, and it provides financing which encompasses all stages from production to consumption. ADS, for example, financed the «TATMINE» program, which consisted of promoting local production chains for the benefit of small farmers including women.<sup>27</sup> ADS seeks to improve the living conditions of the vulnerable by supporting collective and individual projects for the production of goods and services. It also strengthens the institutional capacities of non-governmental organizations that work to support the agency.<sup>28</sup>



## POLICY INNOVATIONS

### Transitioning to a territorialization approach: National Human Development Initiative

In order to bring decision-making closer to the population and facilitate a more inclusive policy process, Morocco adopted a territorial approach to food systems governance. This new system of governance is represented in the National Human Development Initiative (INDH), which was launched by the King of Morocco in 2005 to tackle the root causes of poverty and socioeconomic exclusion. The INDH seeks to reduce poverty through the creation of income-generating activities in the form of micro projects such as agricultural processing and value addition, and the promotion of collective entrepreneurial thinking and networking. The INDH is a national coordination body housed within the Ministry of the Interior. A multilevel governance structure was adopted under the INDH with a central strategic interministerial committee and regional, provincial, and local committees. Agricultural and rural development are key priorities under the INDH, which seeks in particular to improve the living conditions of women and youth.<sup>29</sup> Between 2005 and 2014, more than 80 percent of funded activities were in the agricultural sector and mainly included goat breeding, rabbit farming, beekeeping, irrigation, and milk collection. The majority of beneficiaries were young people and women in rural areas.<sup>30</sup> Other areas of activity included capacity development and strengthening of the actors involved in implementation of the INDH; the focus

was on good governance mechanisms and on the provision of basic services and infrastructure such as education, healthcare, roads, water and sanitation, and environmental protection.<sup>31</sup>

### Building sustainable, prosperous, and nutritious food systems

#### Plan Maroc Vert (Green Morocco Plan)

Implemented between 2008 and 2020, the Plan Maroc Vert (PMV) remains one of Morocco's defining national strategies. It contributed significantly to building sustainable food systems in Morocco. As reflected in its two pillars, its aim was to enhance the country's food security by increasing food production and income, especially for small-scale and family farmers.<sup>32</sup> Pillar I of the PMV aimed to develop modern agriculture, supported by investments with high added value by upgrading key value chains including cereal, legumes, citrus fruit, olives, and grapes. Pillar II sought to support vulnerable actors such as smallholder farmers, with the aim of reducing rural poverty by improving their incomes. It aimed to double agricultural value-added, create thousands of jobs and halve rural poverty by 2020.<sup>33</sup> The PMV also adopted the territorialization approach, which is founded on the principle of optimizing the potential of each region. To that end, regional agricultural plans were formulated with the involvement of local and regional actors; after validation by the Ministry of Agriculture and Fisheries, they were used as the main policy documents.<sup>34</sup> The PMV served to reinforce Morocco's food self-sufficiency such that





about 70 percent of the domestic cereal market and all vegetables, meat, and milk are locally produced. Between 2007 and 2018, agricultural value added doubled from US\$ 7.35 billion to US\$ 14 billion and agricultural exports increased by 2.4 times. The plan also created more than 250,000 jobs in the agricultural sector. More than 2.7 million beneficiaries—including small and medium-sized enterprises—benefitted from interventions such as irrigation and water management, agricultural insurance, aggregation, and animal health and genetic improvement. Each US\$ 1 of publicly funded incentive generated US\$ 2.3 of private investment; this amounted to more than US\$ 7.12 billion of private investment.<sup>35</sup>

### Green Generation Strategy

In 2020, the Government of Morocco adopted a new decadal strategy, the Green Generation 2020–2030 (GGG), led by the Ministry of Agriculture and Fisheries. The GGG builds on the success of the PMV to present a new vision for the agricultural sector, new governance arrangements, and the provision of modern tools for agricultural development. It also aims to serve as an instrument for recovery from the COVID-19 crisis and for rural resilience. The strategy has two pillars, one on human capital development and the other concerning sustainable agricultural development. Pillar I, the human capital development pillar, promotes the creation of an agricultural middle class of some 400,000 households and a new generation of young entrepreneurs. This objective will be achieved through investment in 1 million hectares of collective land for the creation of 350,000 jobs targeting young people, through agricultural organizations that are supported by efficient inter-professions, and through the implementation of updated support mechanisms.<sup>36</sup> Pillar II will ensure the sustainability of agricultural development by increasing the performance of agricultural value chains. Its goal is to double the 2020 volume of exports and agricultural GDP by 2030 and to ensure that product distribution processes are improved through the modernization of wholesale markets. Pillar II also aims to replant 133,000 ha of forests, create 27,500 additional direct jobs, and increase the annual income of production chains and ecotourism to about US\$ 515,000. To reach these resilience goals, the new strategy seeks to actively involve local communities in forest management and to create forest nurseries, a training and research center, a Water and Forest Agency, and a Nature Conservation Agency. Combined, the two pillars directly contribute to several dimensions of food security. The GGG is being implemented through a territorial approach in order to tap into the comparative advantages of

each region; it coordinates with all stakeholders and follows the principles of good governance.<sup>37</sup>

### Halieutis Plan

In 2009, the government launched the Halieutis Plan to complement the PMV's focus on crop and livestock production. The plan aimed to promote the conservation of fisheries and marine ecosystems, boost the productivity and quality of the sector, and enhance its competitiveness in the global economy. In doing so, the Halieutis Plan sought to increase the sector's contribution to GDP and exports and to improve food security and nutrition, while maintaining the long-term sustainability of aquatic resources. The plan aspired specifically to increase domestic consumption of fish from 11 kg per capita per year to 16 kg per capita per year. To this end, three processing zones were constructed for a total of US\$ 1.02 billion, one each in Tangier, Agadir, and Laâyoune-Dakhla. Following from their construction, marine fishery production rose by an average of 2.3 percent per year and by 2017 its total value had increased by 7.2 percent. The marine fishing sector currently offers 108,000 jobs on boats and 97,000 jobs on land. The production increase improved food security and nutrition in Morocco by allowing the per capita consumption of fish to rise from 11 kg in 2009 to 14 kg in 2017. In addition, the sector attracted US\$ 295 million in private investments and by 2019 the annual growth rate of investments in fish processing industries had reached 13 percent.<sup>38</sup> Yet another plan has been designed for the period 2020 to 2030, one which is also based on the territorialization approach.

### National Nutrition Strategy

Over the period 2011 to 2019, Morocco also committed to improving nutrition through the implementation of the National Nutrition Strategy. Nine ministries were overall involved in its design and implementation, including the Ministries of Health, Agriculture and Fisheries, Education, Youth and Sports, Interior, Communications, and the Ministry of Industry, Trade, Investment and the Digital Economy.<sup>39</sup> The interdisciplinary nature of the nutrition strategy led to the formation of the Comité intersectoriel de nutrition. This decision-making body was composed of representatives from the public, the private sector, local communities, and civil society. With the aim of food and agricultural transformation, the strategy aimed to improve the availability and affordability of food while ensuring the quality and safety of food products. It included the use of reinforced price regulation mechanisms such as food price subsidies, a productivity increase among small-scale farmers, and an effort to capitalize on local agricultural products. The strategy's approach, however, did not



assume a territorial orientation as it was mainly centralized, lacking regional or local dimensions.<sup>40</sup>

### National Integrated Youth Policy

The Ministry of Youth and Sports, in partnership with the General-Directorate for Local Communities and international organizations such as the United Nations, has also designed a long-term policy called the National Integrated Youth Policy 2015–2030. It was created with the technical assistance of the World Bank and the support of the Center for Mediterranean Integration in Marseille. The policy aims to address the inefficiency of uncoordinated sectoral policies by adopting a cross-sectoral youth policy. In order to ensure convergence in the actions dedicated to young people in all domains, sectors such as agriculture, environment, education, employment, health, and culture are involved. The policy emphasizes the economic and social inclusion of all young people and particularly of groups of disadvantaged youth. It has planned to ensure greater inclusion of young people in the conception of public policies to ensure that they receive quality education, have access to formal employment and adequate health services, are able to participate actively in political, social, and cultural life, and that their human rights are respected.<sup>41</sup>

## PROGRAMMATIC INTERVENTIONS

### Multisectoral interventions

Morocco has implemented several innovative programs to achieve the objectives of its different initiatives, policies, and plans. The INDH has been implemented in three phases. During its first phase (2005–2010), it was structured around four programs that were focused on the fight against poverty in rural areas, social exclusion in urban areas, precariousness, and a cross-cutting human development intervention. The second INDH phase (2011–2018) pursued the same objectives as the first phase but with an increased financial envelope allocated to programs. During this phase, rural communities and poor urban neighborhoods were targeted, as well as one million beneficiaries in 3,300 villages belonging to 22 mountainous and isolated regions. The third INDH phase (2018–2023), launched in September 2018, consolidates the achievements recorded during the previous phases. It is based on four programs that focus on providing infrastructure and basic services in under-equipped areas, supporting people in vulnerable conditions, improving the income and the economic integration of young people, and supporting human development in favor of future generations through investment in human capital.<sup>42</sup> By 2014, more than 7,400 projects (about 20 percent

of the total number) had been implemented in the agricultural sector under the INDH. These include 3,063 projects in the livestock sector with 45,945 beneficiaries, 300 projects in the promotion of local products with 7,407 beneficiaries, 288 projects in the fisheries sector with 4,320 beneficiaries, and more than 723 actions targeting smallholder farmers, which together have 10,845 beneficiaries.<sup>43</sup>

### Agricultural Value Chain Program Contracts and Aggregation Projects

The PMV was implemented through innovative interventions that allowed the achievement of the Plan's objectives. Pillar I was implemented through program contracts and aggregation projects for agricultural value chain development. The program contracts are cosigned by government institutions such as the Ministry of Agriculture and Fisheries and by interbranch organizations pertaining to agricultural value chains (such as formalized groups of farmers, processors, or traders). Contracts set out the responsibilities of each party for improving the organization, production, and productivity of a particular value chain over 7 to 10 years, whether within farming or processing. Depending on the value chain and the activities, the government offers incentives for the private sector to invest in businesses under the contract program such as agricultural production, processing, or marketing. Aggregation projects were built around large stakeholders in agricultural value chains. For example, private agro-industrial agreements, for example, support and then buy the output of small farmers.<sup>44</sup> The support to farmers includes the provision of technical advice, inputs, and loans to invest in agricultural product processing. The government finances 10 percent of the aggregation project cost and pays a premium per production unit (hectare, head of cattle, or ton). In 2013, in the region of Doukkala-Abda, a project involving the aggregation of 10,766 dairy farmers, representing 24 percent of the region's producers, was set up around the Nestlé Morocco plant. The breeders owned 17,700 cows and were organized into 130 milk collection cooperatives. As part of this project, the company will achieve aggregated annual milk production of 74 million liters against the initial level of 40 million liters that was set in 2013.<sup>45</sup>

### Productivity increase, conversion to higher value-added crops, and diversification of activities

Pillar II of the PMV had government subsidies as the main instrument for allowing small farmers to invest in intensification, conversion to higher value-added crops (mainly from cereal crops to rainfed or irrigated fruit trees), and diversification of activities through the valorization of local products to generate additional



incomes.<sup>46</sup> In order to stimulate the acquisition of agricultural equipment, for instance, several incentives have been put in place by the government through the FDA. The subsidy for the acquisition of agricultural equipment ranged from 30 to 70 percent, depending on the type of equipment.<sup>47</sup> Under intensification projects, farmers also benefitted from agricultural advice and training provided by the ONCA. The conversion aimed to increase agricultural resilience by replacing cereal crops located in rainfed zones with fruit plantations that are less sensitive to rainfall variations. Eligibility, however, was restricted to farmers cooperatives or associations with the capacity to contribute between 10 and 20 percent to the total project cost, mainly in terms of labor or provision of land to build processing plants. By 2011, more than 325 projects had been approved by the Agricultural Development Agency, for a total cost of US\$ 1.13 billion of public investment. Two-thirds of the projects included fruits and vegetables such as olives, almonds, and dates, with livestock making up the balance.<sup>48</sup> Nearly 12 million trees were planted annually on 1 million hectares of land that was not suitable for cereal crops.<sup>49</sup> To support the marketing of the increased production, professional agricultural organizations were also created, including cooperatives, the federation of cooperatives, and economic interest groups in charge of ensuring the transformation, certification, labeling, and marketing of agricultural products.<sup>50</sup>

### Scaling up sustainable irrigation

Morocco also emphasized irrigation development in order to reduce smallholder farmers' vulnerability to climate shocks and create a more resilient and productive food system. A Program of Irrigation Expansion (PEI) was initiated in 2008 to upgrade 1.5 billion cubic meters (m<sup>3</sup>) of water through hydro-agricultural developments; it aimed to cover an area of 160,000 ha by 2020.<sup>51</sup> In conjunction, the Government of Morocco also implemented the National Irrigation Water Saving Programme (PNEEI) over the period 2008 to 2020 in order to increase water-use efficiency in irrigation for sustainability. The PNEEI aimed to improve and modernize traditional and collective irrigation systems for expanding the use of drip irrigation. To support this program, farmers were able to access financial assistance from the Agricultural Development Fund to help them purchase equipment. In addition, farmers benefitted from advice and guidance on how to increase the return on water used by producing high-value crops and joining aggregation systems. Due to these government efforts, between 2008 and 2014 the amount of land equipped with drip irrigation increased to 450,000 ha; under the PMV, it was intended to reach 550,000 ha by 2020.<sup>52</sup>

Much emphasis has been placed on forming public-private partnerships (PPPs) by offering long-term leases on land to private investors for developing new irrigation projects.<sup>53</sup> PPPs in irrigation reduce the financial burden of subsidies for investment in the public sector; they also provide affordable



improvements in the sustainability and quality of irrigation and drainage services available to farmers and promote more efficient use of water resources through appropriate incentives such as volumetric billing. The program launched by the Ministry of Agriculture and Fisheries encourages irrigation schemes in zones with high agricultural potential through the desalination of seawater.<sup>54</sup> In 2015, the Ministry signed a 30-year contract with a private firm to build, operate, and cofinance the desalination and irrigation infrastructure across 13,600 ha in the Chtouka Plain in the region of Souss-Massa-Drâa.<sup>55</sup> The expansion of land under irrigation and the adoption of modern technologies greatly contributed to the growth and increased resilience of Morocco's agricultural sector. The 2015/2016 agricultural season, for instance, was marked by rainfall that was over 50 percent below average; the agricultural GDP, however, fell by only 7 percent, which was a tangible indicator that the irrigation program has increased farmers' resilience and protection against climate variations. Before the expansion of irrigation, the fall in GDP might have reached up to 40 percent.<sup>56</sup>

### Promotion of youth and women's employment in agribusiness

The Government of Morocco has implemented programs to increase employment, including several in the agricultural value chains. The Ministry of Labor and Professional Integration and ANAPEC, in cooperation with the German development agency GIZ, developed an integrated approach to promoting employment in rural areas. To assist young people in their job search, this approach combines actions which include the identification of local labor market needs, provincial dialogues, and the expansion of an information network and guidance centers for employment; the program also facilitates job seekers' placement and supports young entrepreneurs. Young people are being offered short training courses that are adapted to rural contexts; these include beekeeping, agricultural mechanics, olive processing, maintenance of orchards, phytosanitary treatment, and livestock fertilization.<sup>57</sup> To enhance the sustainability of the model, the project supports key actors who are involved in the promotion of employment at national and regional levels. It works with them to initiate a lasting dialogue on the dissemination of the model and on securing its funding by national and regional partners. During the first phase of the project, from 2015 to 2017, more than 2,500 young women and men aged 15 to 35 benefitted from the project and 47 percent of the young people that were supported

found a job or were able to increase their income. The second phase of the project, from 2018 to 2021, focuses on the development and dissemination of the intervention by piloting it in other provinces so as to reach a further 3,000 young people.<sup>58</sup>

### CONCLUSION

Morocco has made remarkable progress in its efforts to build sustainable food systems. Under the overall leadership of the Ministry of Agriculture and Fisheries, food systems transformation is contributed to by several agencies, including the Regional Offices of Agricultural Development, the Agricultural Development Agency, the National Office for Health Security of Food Products, and the National Office of Agricultural Advisory Services. The decentralization process and the adoption of a territorial approach under the various policies and programs have ensured inclusivity and effectiveness in service provision. Morocco has also prioritized the financial inclusion of smallholders, as evidenced by the creation of an innovative financing institution, the Tamwil El Fellah. The Morocco Credit Guarantee Corporation has also supported private investments in the food system. The government is committed to improving the availability of employment opportunities for youth in the agriculture and food sector, as well as women's participation in agribusinesses. Programs have been implemented under the INDH which aim at sustainably improving the living conditions of the most vulnerable populations, including smallholders. Interventions such as incentives for private sector investment, contract programs, and aggregations have contributed to sustainable increases in agricultural production and ensuring well-functioning food value chains. Irrigation development, land restoration programs, and the expansion of agricultural insurance have strengthened the resilience of the food system. Despite the significant progress in building sustainable food systems, however, Morocco should emphasize action coordination by adopting a food systems approach. In this respect, the UN Food Systems Summit offers a unique opportunity for the country to streamline its interventions in order to maximize their impact and create sustainable, inclusive, nutritious, and prosperous food systems. Other countries can, in turn, draw inspiration from Morocco's innovative approaches to providing access to finance, supporting private sector investments, and enhancing access to employment opportunities, especially for youth.



## ENDNOTES

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