



Program Information Document (PID)

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BASIC INFORMATION

A. Basic Program Data

Country Morocco	Project ID P170419	Parent Project ID (if any)	Program Name Morocco Digital and Climate Smart Agriculture Program
Region MIDDLE EAST AND NORTH AFRICA	Estimated Appraisal Date 23-Mar-2020	Estimated Board Date 14-Jul-2020	Does this operation have an IPF component? No
Financing Instrument Program-for-Results Financing	Borrower(s) Ministry of Finance	Implementing Agency Ministry of Agriculture, Fisheries, Rural Development, Water and Forestry	Practice Area (Lead) Agriculture and Food

Proposed Program Development Objective(s)

The Morocco Digital and Climate Smart Agriculture Program aims at increasing the adoption of digital and climate-smart technologies in agri-food value chains in Morocco.

COST & FINANCING

SUMMARY (USD Millions)

Government program Cost	1,000.00
Total Operation Cost	200.00
Total Program Cost	200.00
Total Financing	200.00
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	200.00
World Bank Lending	200.00



B. Introduction and Context

Country Context

- Over the last two decades, Morocco has achieved relatively strong economic and social outcomes thanks to a series of reforms which resulted in the improvement of the well-being of its population.** In the 2000-2017 period, Morocco's real per capita GDP almost doubled from US\$1,727 to US\$2,948. Extreme poverty dropped to a level of 1 percent and the national poverty rate declined to 4.8 percent. The main reforms which led to these achievements were (i) stabilization of the macroeconomic framework by reducing domestic and external vulnerabilities, (ii) enhancement of fiscal and financial policy frameworks, and (iii) support of economic diversification and competitiveness.
- Over the past 10 years, however, growth has been on a downward trend, and the economy has not generated enough jobs to reduce the persistent high rate of unemployment, especially among the youth and educated.** Real GDP growth decelerated from an average of 4.8 percent over 1996-2006, to 4.6 percent over 2007-2011, to only 3.4 percent over 2012-2017. During the first half of 2018, GDP growth fell to 2.8 percent. Morocco continues to face high unemployment rates and substantial urban-rural disparities. Morocco has close to 34 million inhabitants of which 13.6 million live in rural areas (WB, 2019). Approximately 1.1 million people in the country are unemployed; they represent 9-10 percent of the working-age population and 20 percent among the youth. Poverty rates in rural areas remain twice as high as the poverty rates at national level and the rural population accounts for 79.4 percent of the poor. While inequality as measured by the Gini coefficient at national level declined from 40.7 to 39.5 between 2007 and 2014, it remains high.
- Morocco is highly exposed to climate change.** The Intergovernmental Panel on Climate Change (IPCC) projects a continued warming trend for Morocco. Every decade since 1970, a 0.5 degrees Centigrade temperature increase has been observed, greatly exceeding the global average by about 0.15 degrees. Unless strong action is taken to mitigate this trend, additional temperature increases of as much as three to seven degrees Centigrade are projected for Morocco by 2100. The largest increases (four to seven degrees) are anticipated for the summer months (June, July, and August). Annual precipitation is projected to decline by 10-40 percent, including a 10-30 percent decrease during the wet season from October to April, and a 10 to 40 percent decrease during the dry season, from May to September. As a consequence, droughts and other extreme weather events will be increasing in frequency and intensity in Morocco.
- To address those challenges and to foster the structural transformation of the economy, the Government of Morocco has launched a number of ambitious sectoral programs.** Those programs, which cover the main economic sectors including the agri-food sector through the Plan Maroc Vert (PMV), which aims to promote market-oriented agricultural growth, doubling sector value added and creating 1.5 million jobs, have started to generate results in terms of increased investments, growth and diversification within each sector. Considering the remaining challenges, however, and while pursuing its macroeconomic reform agenda, the Government of Morocco is now looking at ways to increase the impact of those sectoral programs on growth, income generation and employment creation. A new strategy for the agricultural sector, building on the achievements of the PMV will focus on creating a rural middle class with a strong focus on increasing human capital and ensuring the sustainable management of natural resources.



Sectoral (or multi-sectoral) and Institutional Context of the Program

5. **Morocco's agri-food sector can contribute to economic growth, boost shared prosperity, and increase jobs, incomes, and livelihoods.** The agri-food sector is a key growth area. The sector represents 15 percent of GDP, 23 percent of exports, and close to 30 percent of employment. From 2000 to 2015, the non-agriculture sector's GDP grew at a slower rate than overall GDP, meaning that agricultural GDP was the fastest growing sector in Morocco (CEM, World Bank, 2016). Agriculture is the only source of employment and income for 80 percent of the rural labor force, hence growth in the sector results in substantial reductions of poverty rates. To ensure the sector's continued performance and contribution to Morocco's economic development, a stronger focus on job creation in agri-food value chains and on the sector's resilience to climate change is needed.

6. **Increasing farm incomes and creating more and better rural jobs is a priority for Morocco's agricultural transformation.** Today, Morocco's agricultural sector lies between the transition and urbanized agriculture stages in its agricultural transformation process.¹ Hence, Morocco's agriculture has yet to reach its full export and production potential, which could further boost shared prosperity in the country. Furthermore, Morocco is not tapping into the potential of its women and youth. Women are highly appreciated for their work ethic and rigor, but often lack access to the necessary assets such as extension services, finance or social security, which keeps them trapped in low-pay jobs. Morocco's young population offers exceptional knowledge in new digital technologies but has difficulty in finding appropriate employment. Supporting growth in agri-food value chains—beyond agricultural production, and developing storage, processing, distribution, transport, logistics, retailing and other services—could ensure that Morocco's food system increasingly contributes to job creation in the country. Furthermore, necessary policies and investments can improve the quality and quantity of jobs and facilitate the inclusion of more women and youth.

7. **The agri-food sector also needs to adapt to a rapidly changing climate.** Moroccan agriculture is strongly exposed to climate change. With rising temperatures and high levels of water-stress, Morocco is likely to face longer and more frequent periods of drought over the coming decade, less predictable rainfall and more frequent extreme weather events. In addition, agriculture and land use activities represent a substantial share of greenhouse gas emissions, although their overall volume remains low. To ensure the sector's sustainability, Morocco has incorporated the climate change issue into its development strategies in order to manage its impact and reduce vulnerabilities. Morocco's vision is to make its territory and people more resilient to climate change while ensuring a rapid transition to a low carbon economy.

8. **Digital technologies offer solutions to the challenges faced by Moroccan agri-food value chains.** Driven by both public and private sector, the digital transformation of Moroccan agriculture has begun. The sector is experiencing various digital improvements related to satellite imagery, internet and mobile phone-based technologies, IOT networks and E-commerce platforms. The main examples of these digital solutions include: (i) Databases such as FERTIMAP², Crop Growth Monitoring system (CGMS)³, Système d'information sur les prix des produits agricoles (ASAAR⁴), RNA (National Agriculture

¹ A country's transition from an agriculture-based economy to a developed one can be broken down into five stages: (i) agri-based, (ii) pre-transition, (iii) transition, (iv) urbanised, and (v) developed. Policy priorities differ depending on where a country stands in the agricultural transition process. 'Agricultural Transformation Process maps' help decipher the different stages of agricultural development and where countries are located. These maps are created by taking into consideration (i) the percentage of farming jobs, and (ii) the primary agriculture's share of total GDP and allow for the country categorization mentioned before.

² This provides (i) knowledge of soil fertility; and (ii) ad-hoc cost-effective fertilizing recommendations based on soil fertility map and soil sampling. The initiative runs on a GIS platform accessible online.

³ It allows forecasting yields of cereals through (i) weather data processing (9km x 9km resolution); and (ii) simulation of crop growth. The platform is online

⁴ Provides information on daily, time series and analyses on agricultural prices according to regions, type of market (wholesale, retail, souk, Ramadan) and type of product (horticulture, fruit and livestock). See: <http://www.prixagriculture.org/>



Registry)⁵, and ARDNA⁶; (ii) digital farm management services delivered to large cooperatives or producers/exporter associations⁷; (iii) a dynamic banking sector within which digital solutions (FinTech) are catching on⁸; and (iv) E-commerce platforms that are starting to turn to food trade⁹. The digital transformation of agriculture in Morocco will require a significant effort in building domestic capacity to manage the access and use of data, build digital infrastructure in rural areas, improve the regulatory framework, foster the demand/adoption of digital solutions, boost the supply of technology by start-ups and SMEs, disseminate digital technical knowledge and improve academic curricula to address the market demand for digital expertise.

9. **The development of digital technologies in agri-food value chains will be underpinned by the overall digital economy.**¹⁰ The *Plan Maroc Numérique 2020* (Digital Morocco Plan) was developed by the Ministry of Industry, Commerce, Investment and the Digital Economy (MICIEN) and is the vision for the development of the digital economy in Morocco. This strategy aims by 2020 to digitize 50% of administrative procedures and bills, connect 20% of Moroccan SMEs, , and position Morocco as a digital hub. The transformation of the administration towards digital constitutes the backbone of this plan. The plan rests on three pillars i) Digital Transformation of the economy and national government, ii) Digital Hub for Africa, and iii) Digital Foundations including data infrastructure, digital skills and digital regulations and frameworks. In 2016, the Digital Development Agency (ADD), was created to undertake the implementation of the Plan Maroc Numeric 2020 and support the implementation and development of the digital economy, by encouraging the dissemination of digital tools and promoting their use among the population. The Digital Morocco Plan for 2020's major measures aim to authorize the entry of new players, to set up an investment-friendly legal and regulatory framework, and to use Public-Private Partnerships to deploy broadband infrastructure in areas that are less profitable for private investors.

10. **Digital Economy.** Considering the current situation of broadband in Morocco, and the country's ambition to become a regional leader and to rise to the level of economic development of upper-middle income countries, the Moroccan government now faces the need to introduce a second wave of reforms in the broadband sector. Following the example of international best practices, Morocco should primarily strive to: (i) increase coverage for the remaining 40% of the population (who live in more remote, sparsely populated semi-urban and rural areas with poor and/or no profitability); (ii) encourage the arrival of new players (without limits on their numbers and without prohibiting infrastructure deployment) on all market segments (international gateways, backbones, backhauls, access); (iii) introduce regulation for open and non-discriminatory access to communications networks (wireline infrastructure, civil engineering and easements); (iv) promote private investment in telecommunications; and (v) improve regulatory framework for the

⁵ That has significantly improved the national cadastre by merging agriculture census data and satellite imagery.

⁶ An online capacity development, research, extension and communication platform sponsored by the Ministry of Agriculture and FAO. See: <http://www.ardna.org/accueil#>

⁷ This is the case of AGRIDATA (<http://agridata-consulting.com/en/>) working with APEFEL (fruit and vegetable exporter association), Maroc Citrus (citrus exporter association) and COPAG (large cooperative active on dairy, meat, citrus and vegetables).

⁸ Crédit Agricole du Maroc (CAM) stands out as it started the implementation of a “digital agenda” in 2011.

⁹ Jumia is entering into niche products sold by cooperatives and is increasing its sales volumes of processed food for supermarkets.

¹⁰ This is aligned with the Digital Economy for Africa (DE4A) Initiative, which aims to digitally connect every individual, business and government in Africa by 2030 and ensure that each person is digital-enabled and ready to thrive in the digital economy. This includes every farmer and agribusiness. In order to digitally enable the broader food system in Morocco, there needs to be a concentrated effort to build up the core foundations of the digital economy including digital infrastructure, digital platforms, digital skills, digital financial services and an environment supportive of digital business and entrepreneurship. A simultaneous effort will be needed to mitigate the growing risks of the digital era including cybersecurity, data privacy and protection and market concentration. This becomes relevant for the large portion of rural inhabitants in Morocco.



use of new digital technologies like IoT, Drones, Artificial intelligence key to the modernization and improvement of efficiency in the agriculture sector.¹¹

Relationship to CAS/CPF

11. **The proposed operation is fully aligned with the Country Partnership Framework (CPF) 2018-2024.** In particular, it is aligned with Strategic Focus Area A (Promoting job creation by the private sector) and Strategic Focus Area 3 (Promoting inclusive and resilient territorial development). Specifically, the proposed operation would support CPF Objective 2 (Increase opportunities for private sector growth with a focus on MSMEs and youth employability) as well as CPF Objective 10 (Strengthen adaptation to climate change and resilience to natural disasters). Under CPF Objective 2 the CPF foresees to crowd-in the private sector to generate further growth and job opportunities. Under CPF Objective 10 the CPF envisages to support climate adaptation and resilience in sectors threatened by climate variability and change. Yet, the activities of the operation will also indirectly touch upon Strategic Focus Area B (Strengthening human capital), as the Program aims at building, strengthening and protecting human capital by extending academic curricula and developing digital extension services. Given the strong focus on gender and digital technologies in the Program, the Cross-Cutting Themes 'Gender' and 'Harnessing Digital Economy for Jobs and Faster Growth' are equally broadly covered in the Program.

12. **The proposed operation also supports the new MENA Regional Strategy on Economic and Social Inclusion for Peace and Stability.** In particular the Program is aligned with (i) Pillar 1 on Renewing the Social Contract as it emphasizes more inclusive economic growth and the protection of natural resources which are considered public goods to be preserved as part of the intergenerational social contract, and (ii) Pillar 2 on Strengthening Resilience to Shocks, such as climate shocks. The Program is also aligned with the new enlargement of the strategy which focuses on youth, entrepreneurship, and technologies. In particular, the Program touches upon (i) human capital development, and (ii) digital transformation. With respect to human capital development the Program focuses on improving the quality of extension services and access to the social protection systems. With respect to digital transformation, the Program aims at improving skills for youth and women, support entrepreneurship and SMEs, improve contestability in markets, including via disruptive technologies. The regional strategy has an equally strong focus on gender equality and female empowerment, which is clearly reflected in the operation.

Rationale for Bank Engagement and Choice of Financing Instrument

13. **The World Bank has been engaged in the agricultural sector in Morocco for almost three decades and supported the PMV since its inception, through operations which have collectively built capacity and systems in the agriculture sector.** This included: (a) a DPL series in support of the PMV (2011 to 2014, USD 408 million) with a focus on institutional and regulatory measures to – among others - improve the efficiency of domestic markets by reducing marketing costs and improving marketing services through the modernization of wholesale markets and slaughterhouses; improve the effectiveness of the agricultural innovation system; and establish an effective food safety management systems; and (b) two investment operations (Modernization of Irrigated Agriculture in Oum Er Rbia Basin Project, 2010-2017, US\$ 70 million IBRD; Large Scale Irrigation Modernization Project, 2015-2022, US\$150 million IBRD) with a focus on improving water service to small farmers in large scale irrigation perimeters as a prerequisite to the adoption of improved irrigation

¹¹ The Program will be able to build on and create synergies with other WB sector projects, such as (i) the 'Financing Innovative Start-ups and Small and Medium Enterprises Project' (P150928), which aimed at increasing private equity and quasi-equity finance for innovative startups and small and medium enterprises in Morocco, and (ii) the 'Financial Inclusion and Digital Economy' project (P 168587), which focuses on fostering financial inclusion and contributing to digital transformation for individuals, enterprises, and entrepreneurs.



technologies and increase in agricultural water productivity. Furthermore, a PforR supporting the PMV (2018-2022, US\$ 200 million IBRD) aims to increase the volume of added-value products commercialized in the olive and citrus agri-food value chains. In addition, sustainability of the agricultural sector in rainfed marginal areas has been addressed through two dedicated grants by the Global Environmental Facility (GEF) (Integrating Climate Change in the Implementation of the Plan Maroc Vert Project, 2010-2015, US\$4 million; and Social and Integrated Agricultural Project, 2013-2017, US\$6 million) focusing on climate change adaptation, biodiversity and land conservation. The proposed operation would complement and build on these project experiences by putting a stronger focus on equity/job creation and resilience/environmental sustainability in agricultural value chains, while also ensuring the sustainability of the investments made in earlier projects/programs, in particular the irrigation IPFs.

14. **The GoM is now seeking assistance to support the development and implementation of the new phase of the PMV—a new agricultural strategy currently being finalized.** The GoM has demonstrated its commitment to results and reforms through the implementation of the PMV and the development of the new agricultural successor program of the PMV, which will be finalized in September 2019. During the preparation of the CPF 2019-2024, the MAPMDREF has asked for the continuous support of the World Bank to strengthen its agriculture sector by leveraging digital and climate smart technologies. On January 29, 2019, the GoM officially solicited World Bank financing and technical assistance to implement the new agricultural strategy. The request also stressed two angles to design the support: digital technologies and climate smart agriculture.

15. The final choice of the instrument will be made during project preparation and appraisal.

C. Program Development Objective(s) (PDO) and PDO Level Results Indicators

Program Development Objective(s)

The Morocco Digital and Climate Smart Agriculture Program aims at increasing the adoption of digital and climate-smart technologies in agri-food value chains in Morocco.

PDO Level Results Indicators

At PDO-level, it is proposed that the following three indicators would be used to assess the PDO results:

- Number of farmers and agri-food SMEs adopting climate-smart technologies and practices;
- Number of farmers and agri-food SMEs adopting digital technologies.

D. Program Description

16. The Government's program is the next phase of the Plan Maroc Vert (PMV). The proposed project will focus on 2 key areas of the Government's program: the diffusion and adoption of i) climate smart technologies and practices and ii) digital technologies in agri-food value chain. The Program will mainly focus on building the ecosystem and setting up the incentive schemes to enable the private sector to provide digital and climate smart technologies and farmers and agri-food SMEs to adopt them. The increased adoption of these technologies will transform the Moroccan agri-food sector and will contribute to reaching the higher-level objectives of the new strategy: i) Creating jobs in rural areas (especially for the youth and women); and ii) Managing natural resources in a sustainable and climate-resilient way.



17. The PMV was launched in 2008 to modernize and foster the growth of the agri-food sector. The PMV aims to transform the agri-food sector into a key source of economic growth that contributes to employment creation and poverty reduction in rural areas, while promoting the sector's integration into the global economy, and helping the sector adapt to climate change. The PMV includes a set of transversal institutional reforms, as well as an investment support program based on public-private partnerships. At sub-sector level, specific targets and actions have also been jointly negotiated between MAPMDREF, the Ministry of Economy and Finance (MEF) and representatives of the private sector (Interprofessions) through Contrat-Programmes (CPs, result-based agreements) in 19 sub-sectors. For each action, the CPs define the respective contributions of the public and the private sectors. The PMV has also been translated into agricultural development plans endorsed by each region.

E. Initial Environmental and Social Screening

18. **In terms of environmental and social risk management**, the concept stage examination of potentially critical aspects based on the PforR E&S tool for initial screening of types of risks shows that:

a) Environmental and social risks: Initial assessments show that social and environmental risks are expected to be moderate, and that E&S management capacities are likely to be adequate to manage risks related to the social and environmental context of the project. In accordance with OP 9.00 the project would not finance activities expected to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people. The project's operation proposals will be screened during program preparation and implementation for such adverse impacts. If such activities are likely to occur within the project, they should be excluded from PforR support. An Environmental and Social Systems Assessment (ESSA) will be conducted during preparation to ensure E&S risk management capacities are adequate, that screening capacities are adequate, and that eventual gaps are mitigated during implementation. In fact, the project is likely to yield important benefits for producers and processors in selected sub-sectors, both through its institutional strengthening activities and the specific investments to be financed. Physical investments are expected to have no negative social impacts in terms of resettlement and land acquisition, while they may yield environmental benefits, particularly by developing climate-smart value-chains and improved environmental management practices. Overall impacts are expected to be positive, through improved environmental management practices along value-chains, and increased capacity and economic returns for beneficiaries;

b) Capacity of National Systems: Morocco has a legal framework in place for environmental and social management and impact assessments, and reliable country systems to manage the risks associated with project activities. The key legislative text is Law no. 12-03 of May 12, 2003, aimed at minimizing the negative impact of projects and improving ecological sustainability. Regarding land tenure, the protection of property is ensured by Article 35 of the new Constitution of 2011 and implemented through numerous laws. The Constitution also establishes equality, inclusiveness, participation (art 136, 139), including disclosure and consultation processes, the right of petition, grievance redress mechanisms as well as citizen engagement (art 19, 136, 139, 156). Moreover, Morocco has adopted in March 2014 a National Charter of the Environment and Sustainable Development. As the main beneficiaries of the Program include farmers, SMEs and agribusinesses, it will be important for project design to identify cultural, social, economic, geographical and political constraints to equitable access to project benefits, giving special attention to the needs and concerns of women, youth and the most vulnerable groups. Some specific weaknesses still do exist and will have to be managed through the ESSA and Program Action Plans; for instance, timely compensation in cases of land acquisition. The need for coordination of safeguards standards and procedures across a number of agencies executing program activities deserves particular



attention. Any specific weaknesses pertaining to the execution of the project’s activities will be the subject of corrective actions recommended in the Program Action Plan;

c) Reputational and political risk: The PMV is not seen to be a controversial program and has been widely supported by beneficiaries. Program assessment should review both the overall decision-making processes and allocation of resources to strengthen social inclusiveness (e.g., ensuring that women, youth, and vulnerable groups at least have a fair opportunity to benefit from the Program). The primary reputational risk to the Bank is that the Program may not deliver the scope and scale of benefits envisioned, or that the explicitly environmental and social aspects of the program development objective cause the program to somehow become associated with broader social or political protest causes.

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