Food and Agriculture Organization of the United Nations

Innovations for inclusive agricultural finance and risk mitigation mechanisms

The case of *Tamwil El Fellah* in Morocco

Innovations for inclusive agricultural finance and risk mitigation mechanisms

The case of *Tamwil El Fellah* in Morocco

Authors
Juana Ramirez,
Senior Project Officer, Research and Development, ADA
Emilio Hernandez,
Agricultural Finance Officer, FAO

Published by
the Food and Agriculture Organization of the United Nations
and
ADA – Microfinance
Rome, 2016

Recommended citation

FAO/ADA. 2016. *Innovations for inclusive agricultural finance and risk mitigation mechanisms – The case of* Tamwil El Fellah *in Morocco*, by Ramirez, J. & Hernandez, E. Rome, Italy.

Cover photographs
©FAO/A. Benedetti

This study is the result of collaboration between Appui au Développement Autonome (ADA) and FAO on the provision of capacity development services, knowledge management and knowledge dissemination on innovative agricultural finance.

ISBN 978-92-5-109429-7 (FAO)

Contents

TABLES

Prologue

Morocco has undergone a process of political, economic and social reform over the past decade and a half, which has resulted in a significant economic growth and poverty reduction. However, the fruits of this development are still not equally shared, with pockets of extreme poverty concentrating in rural areas. The contribution of the agricultural sector to total GDP fluctuates around 15 percent (Ghanem, 2015); agriculture has been not only one of the main growth engines of the economy but also the main channel for poverty reduction in Morocco.

The Government's Green Morocco Plan (*Plan Maroc Vert*) (Ministry of Agriculture and Fisheries, 2009) underlines agriculture's important role and sets strategies to promote the sector's development by attracting domestic and international investments in the sector and organizing private actors in competitive and profitable value chains.

Despite these efforts, however, important challenges remain. An important one refers to the availability of appropriate financial services for rural actors engaged in agriculture. The average capital required yearly to finance agriculture is estimated at 30 billion Dirhams. The Moroccan banking sector finances only 17 percent of such demand and *Credit Agricole du Maroc* is responsible for about 80 percent of this share of financing to agriculture. A significant part of the rural population composed of poorer households continues to see its financial needs satisfied mainly by informal financial service providers given the inability of the formal financial sector to reach rural areas with appropriate and sustainable products.

This case study documents a particularly innovative model for providing financial services to poorer rural households dependent on agriculture – the *Tamwil El Fellah* (TEF) model developed by the *Groupe Crédit Agricole du Maroc* (GCAM – the Morocco Agricultural Credit Group). TEF has built on the long-standing experience of financing the agriculture sector and the network of agencies and human resources of GCAM, putting in place its own business model with risk management mechanisms adapted to its specific client segment: farmers with small and medium-scale agribusinesses.

These risk management mechanisms include: i) ensuring TEF's proximity to clients; ii) the appropriateness of its loan products and support services to clients' needs; iii) its wide set of supplementary customer services; iv) the establishment of a guarantee fund; and v) a scoring system for evaluating and managing the risks of TEF's clients and their context.

The analysis presented in this study aims to highlight important principles that can be applied by financial institutions and supporting organizations to promote inclusive rural and agricultural financial services in the context of developing countries.

Acronyms

EIG	Economic interest group
GCAM	*Groupe Crédit Agricole du Maroc* (Agricultural Credit of Morocco Group)
NGO	Non-governmental organization
PSF	Prudential Stabilization Fund
TEF	*Tamwil El Fellah*

Chapter 1
Socio-economic context

Over the last decade several measures to improve macroeconomic, microeconomic and social policy have been put in place, including measures that contribute to the development of a stable monetary fiscal regimes, the improvement of competitiveness and efficiency across all sectors of the economy, and the launch of social programmes that aim to ensure greater equality across all segments of society (UNDP, 2015).

Today, inflation is under control at below 2 percent; the budget deficit has declined from about 7.2 percent of GDP to about 4.3 percent in recent years. Sector reforms, improvements in infrastructure and better integration to international markets (especially with the Arab and African region and the BRIC economies) have facilitated a reduction in the ratio of trade deficit to GDP (World Bank, 2016).

The GDP growth rate was 3.8 percent in the 1980s and 2.5 percent in the 1990s. Since then Morocco has experienced a faster rate of economic growth, with a GDP growth rate of 5.1 percent from 2000 to 2009 (Vergne, 2014).

The increase in GDP per capita since 2000 was accompanied by a decrease in absolute poverty from about 15 to about 5 percent, but – as a Gini coefficient of 40.9 for the period 2005 to 2013 indicates – growth in Morocco is still not equally shared (Ghanem, 2015; HDR, 2015).

Poverty is higher in rural than urban areas (i.e. 14.4 percent compared with 4.8 percent); the rural population, most of whom depend directly or indirectly on agriculture, represents two-thirds of all poor people in Morocco (Vergne, 2014; Ghanem, 2015).

In contrast, unemployment is higher in urban than rural areas (with an urban unemployment rate of 14-15 percent) and is especially pronounced among young people (KPMG, 2012). Increasingly, young men are moving to large cities, but are unable to find jobs there. Young women are left to look after family farms in remote zones with inadequate infrastructure, especially for education and health (Ghanem, 2015).

The overall growth that the agriculture sector has achieved has had a positive impact on poverty reduction and overall economic growth. However, the structural transformation that the Moroccan economy is undergoing requires interventions to ensure the development of other sectors in the economy to include the population moving out of rural areas and agriculture. Policies for increasing equality are being developed, focusing on equality between rural and urban areas and between women and men, and on the continuous competitiveness of agriculture. Development of the financial system is expected to strengthen the economic and social development of Morocco.[1]

[1] Through policies such as the National Initiative for Human Development, and the Green Morocco Plan, which is described in the next section.

Chapter 2

Strategies to support Agriculture in Morocco – the Green Morocco Plan

2.1 OVERVIEW

The Green Morocco Plan underlines the role of agriculture as the principle growth engine and means of poverty reduction. The strategy is built around two pillars. Pillar I focuses on modernizing agriculture by developing and promoting high-rent agricultural value chains through integration and aggregation. Pillar II focuses on regional development plans for social agriculture (Jaouad, 2011). In this pillar, programmes seek to support smallholder farmers, particularly with projects that improve their organizational levels and enhance their inclusion in agricultural value chains.

In general, interventions under the two pillars of the Green Morocco Plan are based on six principles: i) the agriculture sector is the main source of economic growth and poverty reduction; ii) agricultural development strategies should not focus on agriculture alone but should also take into account its links to the non-agricultural sector with different stakeholders and territories; iii) aggregation models need to foster innovation and equality within agricultural value chains; iv) the core objective is to raise investments in agriculture from domestic and foreign investors; v) a pragmatic approach with the capacity to advance concrete projects should be applied; and vi) the plan applies to all value chains, both modern and traditional.

2.2 A STRATEGY FOR ATTRACTING INVESTMENTS

Investment objectives and initiatives

The challenge facing the Moroccan Government is to raise enough funds to make all the public and private investments required to foster the country's economic development. The government aims to attract national and international investments by putting in place new initiatives and projects within the framework of the Green Morocco Plan based on public–private partnerships. The idea is to encourage export and domestic agricultural markets through public projects coordinated with the private sector that reduce constraints to investment in agriculture. Approximately 1 600 projects are expected to be implemented in the next decade using a combination of private- and public-sector investments (CERCAM, 2015b).

Results from investments promoted through the Green Morocco Plan in different agricultural production systems (arboriculture, cereals, citrus fruit, olives and milk, among others) generated Dh 23.2 billion of sales from exports between 2008 and 2013 (CERCAM, 2015b).

The main difference from previous government strategies is that a distinction is made between growth-driven projects and equity- and socially driven ones. This distinction is made explicit in the definitions of pillar I and pillar II projects. Pillar I constitutes between 700 and 900 projects representing approximately Dh 150 billion in investments over ten years. Pillar II comprises about 550 solidarity projects to be implemented with investments of Dh 15–20 billion over ten years (Ministry of Economy and Finance, 2013).

A pragmatic approach to attracting investments has meant giving priority to adapting regulations so that formal contractual agreements among all value chain actors are made cost-effective and feasible. It also means creating an enabling environment to facilitate operations among actors. New policy and institutional reforms are required to boost the agriculture sector. The main initiatives that are shaping the sector's framework are (Ministry of Agriculture and Fisheries, 2009):

- *land tenure policy* enabling private-sector entities to manage public and collective lands;
- *water policy* establishing water pricing initiatives for private management of irrigation systems, promoting investments in modern irrigation systems to make them manageable at the group or individual level, and shifting to more profitable and environmentally sound production systems (transitioning from wheat, barley and maize to more productive and perennial cash crops such as fruit trees);

- *fiscal policy* that is adapted and implemented to take into account the specific regional and economic characteristics of the agriculture sector, avoiding the previously disproportionately heavy taxation of the sector;
- *local market policy* modernizing domestic retail circuits and commercialization channels, and improving the infrastructure for wholesale markets and slaughterhouses;
- *policies to support monitoring and evaluation* restructuring the Ministry of Agriculture and Fisheries and creating two new structures to attract and promote technical assistance solutions with high potential – the Agency for Agricultural Development (*Agence pour le Développement Agricole*)[2] and the National Office for Food Safety (*Office National de Sécurité Sanitaire des Produits Alimentaires*).[3]

Boosting the food chain through agro-hubs[4]

The food chain is one of the engines of the Moroccan economy.[5] However, it cannot be developed without sustainable intensification and modernization of agricultural production systems. Aggregation models contribute greatly to modernization of the agriculture sector. The Ministry of Agriculture and Fisheries has therefore co-invested with private actors in clusters or industrialized agriculture hubs devoted to the agrifood sector. There are six new-generation agro-hubs to date, located in Meknes, Berkane, Agadir, Tadla, Haouz and Gharb.

These agro-hubs are established through coordination between two technical assistance service providers: the Regional Investment Centre (*Centre Regional d'Investissement)*, which attracts public and private investors; and the Ministry of Agriculture and Fisheries, through its section dedicated to the development of agricultural value chains.

The objective is to create strategically positioned agro-hubs equipped to attract new industries and businesses looking to establish themselves within a modern and competitive technology framework. Agro-hubs facilitate the consolidation of agro-industry systems and agribusinesses, helping to attract significant investments in Moroccan agricultural and food sectors.

[2] http://www.ada.gov.ma (accessed June 2016)
[3] http://onssa.gov.ma/fr/index.php (accessed June 2016)
[4] This section, including Box I, is based on information from the Web site of the Agency for Agricultural Development: http://www.ada.gov.ma (accessed June 2016)
[5] A new agro-industrial strategy is being developed between the Ministry of Agriculture and Fisheries and the Ministry of Industry.

2.3 A STRATEGY FOR STRUCTURING AND ORGANIZING THE AGRICULTURE SECTOR

The aggregation principle

Aggregation involves actors with different functions working together to create value. It results in structured production models led by operators acting as investors and facilitators of information exchange and financial resources within each of the segments of a given value chain. Aggregation models are based on voluntary and often multiparty agreements that foster integration among the production, transformation and commercialization functions. The main purpose is to link productive agricultural models to markets. The organization of structured and integrated value chains is illustrated in Figure 1. The process implies investing in the organization of well-performing production systems that involve cooperatives, input suppliers and farmers. It also requires organization among producer groups to facilitate access to markets and improve the negotiation capacity of farmers in selling their products to local traders, processors or exporters (Ministry of Agriculture and Fisheries, 2009).

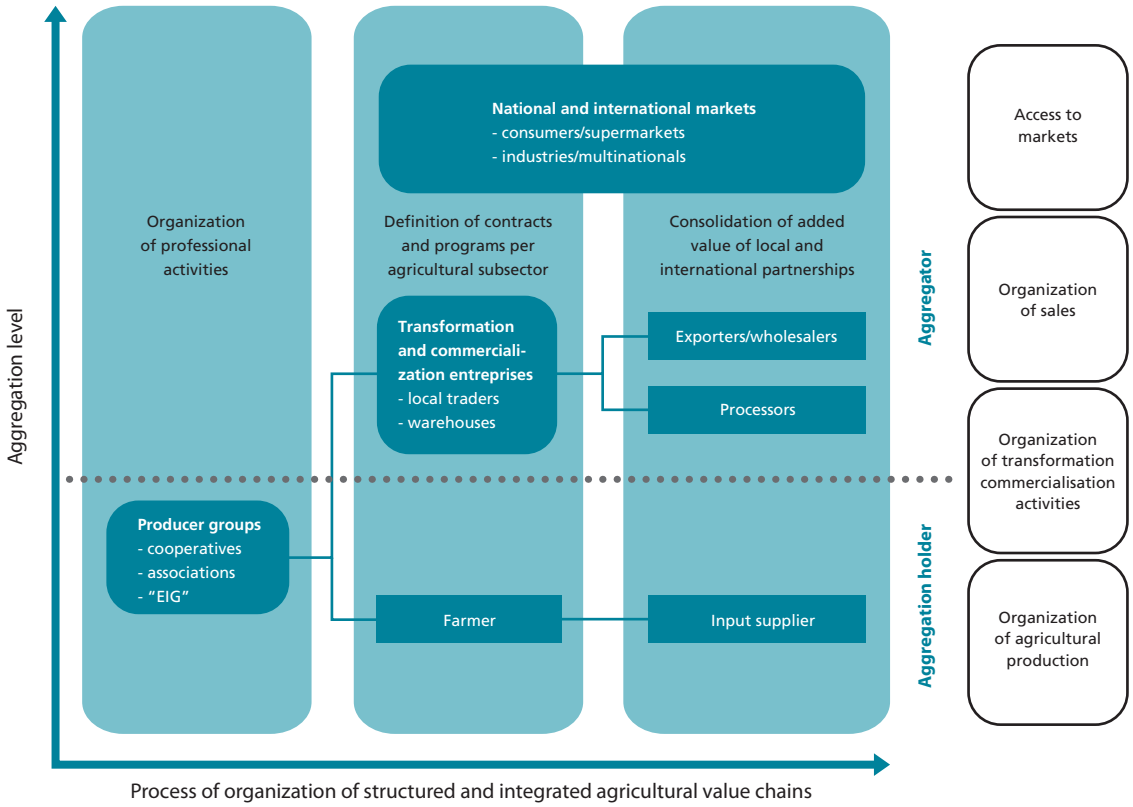
Economic interest groups as an economic and social development instrument

The provision of technical assistance for cooperatives and farmers led to reforms and innovation at the institutional level in Morocco. A bill on economic interest groups (EIGs), presented by the Ministry of Industry, Trade, Investment and the Digital Economy, was adopted on February 2015. The bill aims to make EIGs an instrument of true economic and social development and to harmonize national legislation with that of international economic partners (*Le Matin,* 2015).

An EIG is a consortium of related businesses, companies, foundations, organizations or institutes that formally pool their efforts to achieve competitive advantage. Most partners within an EIG come from the private sector, but the inclusion of public-sector partners is not uncommon.

The new legislation focuses on expanding the possibility of forming EIGs to individuals, enabling them to enjoy the benefits of this type of legal entity, particularly the possibility for creating an EIG without capital, a tax exemption on corporate duties, and the flexibility of group management. This opportunity provides an incentive for individual farmers and traders to evolve and facilitate the modernization of their operations. Companies now have the possibility of creating an EIG for not only the subsidiary but also the

FIGURE 1
Aggregation model – integration of agricultural production systems into commercial and industrial markets



Source: author's illustration.

main activities of their members. The objective of including this provision in the bill was to support implementation of Morocco's Industrial Acceleration Plan 2014–2020, speeding up the competitiveness enhancement and economic activities of actors in industrial ecosystems and increasing their effectiveness (*Le Matin*, 2015).

EIGs provide a usefully juridical form that enables farmers to organize themselves and develop their activities in coordination with other stakeholders. This type of instrument provides a more accountable and formalized framework for securing investments in solidarity agriculture, gathering smallholder families, and allowing farmers and their partners to manage risks while strengthening productive networks.

The government can better channel funds to territories where farmers are organized in producer groups. Subsidies for productive agricultural activities increased from USD 171 million in 2008 to USD 304 in 2014. EIGs facilitate this process and allow smallholder farmers to participate in larger-scale projects within their regions. Infrastructure has been built and developed using subsidies and technical assistance provided by government units, and EIGs also facilitate access to finance and the establishment of viable public–private partnerships. The interventions of GCAM and its subsidiary TEF are based on these features. Subsidies for projects under pillar II of the Green Morocco Plan are paid exclusively through the networks of GCAM, with oversight by the public service division of GCAM to guarantee financial due diligence. As the subsidies are granted to farmers after completion of the investment, the bank issues "a transfer of liabilities note", which ensures repayment through the transfer of subsidies to beneficiaries. To date, 60 EIGs have been formed throughout the country developing agricultural value chains related to olive oil, date palm, dairy and vegetables, among others.

The government is responsible for supporting farmer organizations and providing public goods, while GCAM, through its subsidiary TEF, evalu-

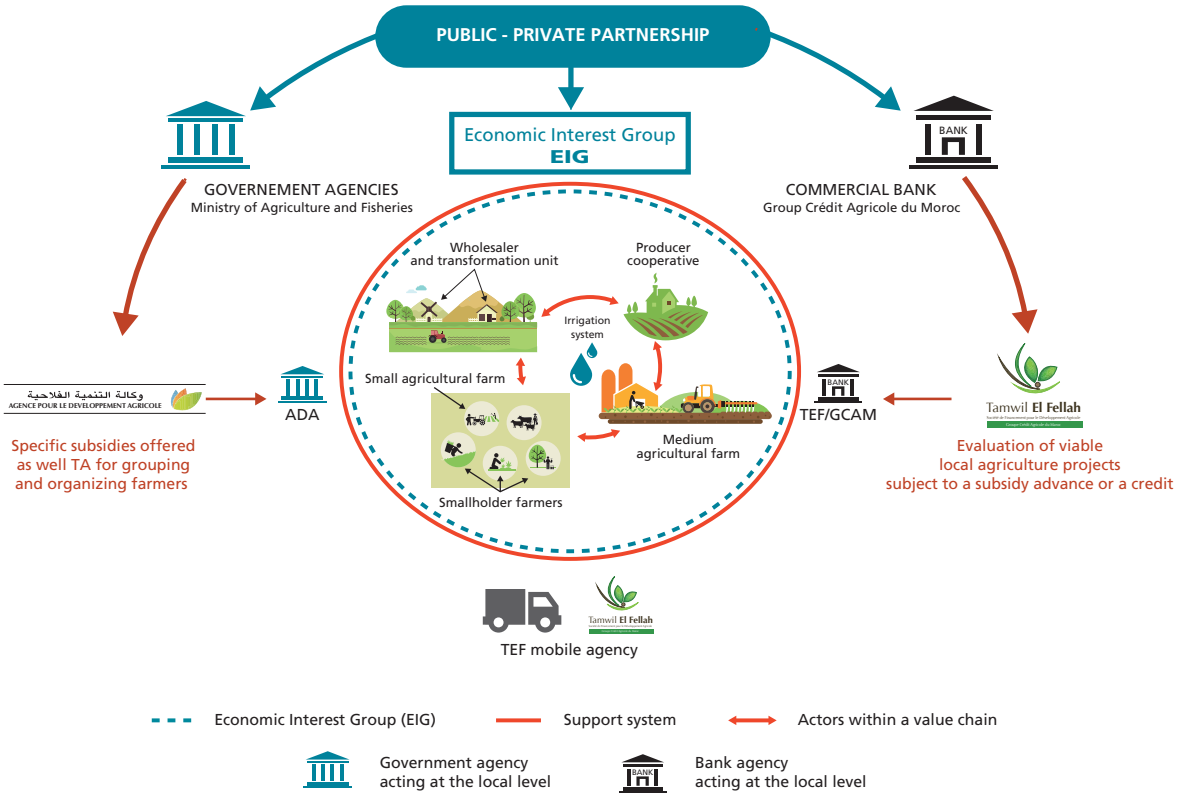
BOX 1
Economic interest groups

Members of EIGs can be legal or physical persons. An EIG is created between two or more individuals or legal entities for the development of their activities, whether commercial or civil, and can bring together people working in very different professions. An EIG can be formed without capital or contributions from its members, even if they aim to make a profit. EIGs are run by individuals or legal entities; legal entities must nominate an individual as manager who assumes responsibilities in the EIG's name. Members of an EIG have unlimited and joint liability for debts. The main purpose of an EIG is to pool resources for the development of the economic activity of its members. It can have a profit seeking or not-for-profit operation modality. However, when profits are generated by the EIG's activity, these should be returned to EIG members in the form of services or allowances. The constitution of an EIG is laid down in a written group contract and must be made publically available through registration in the appropriate commercial and mortgage registry.

Therefore an EIG has a well-defined legal status that allows its members to share some of their activities and liability for their debts. It can be considered an intermediate legal entity between a company and an association, whose purpose can only be ensuring the sustainability of its members' economic activity. This type of entity can be put to use in organizing and carrying out commercial, industrial, agricultural, handicraft and other activities. EIGs have the advantage of having very flexible legal rules, particularly regarding capital share requirements, purpose (which may be civil or commercial) and organizational arrangements. In practice, an EIG is frequently created to facilitate sustainable cooperation among practitioners interested in pooling costs.

Source: Actualités du droit Ohada: www.actualitesdroitohada.com (accessed June 2016) (in French).

FIGURE 2
The organizational support system for agricultural development



Source: author's illustration.

ates viable economic projects proposed by value chain actors and provides access to formal financing for small-scale farmers participating in these projects so that they can produce in conformity with market requirements using the infrastructure provided by the government or other private partners. Figure 2 illustrates this private–public cooperation between GCAM and public agencies supporting agriculture, and the organization of agricultural actors for productive purposes.

Chapter 3

Agricultural financing and investment in Morocco

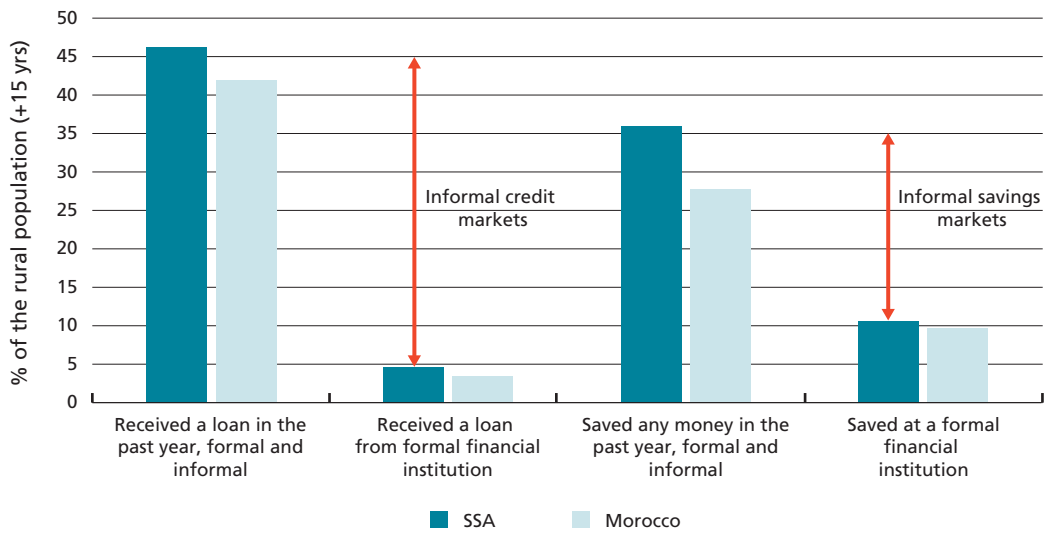
3.1 MAIN CHALLENGES

While the Green Morocco Plan seeks to attract national and international investment in the agriculture sector and to integrate actors in competitive and profitable value chains, major challenges remain for agricultural financing and investment in Morocco. Some of the most important ones relate to the persistent need for financial institutions to reach out to a segment of the rural population that remains underserved by or excluded from the formal financial sector.

A significant proportion of rural people continue to have their financial needs satisfied mainly by informal financial service providers rather than the formal financial sector. Figure 3 shows the percentages of the rural population in Morocco that received a loan or saved money through formal and informal sources in 2011. The informal rural credit and savings markets are represented by the gaps between the bars, confirming the dominance of informal financial service providers in rural areas. Figure 3 also compares these percentages for Morocco with the averages for sub-Saharan Africa.

Although the informal credit and savings markets in Morocco are slightly smaller that the average for sub-Saharan Africa (note the informal credit and savings market is represented by the difference between the bars in Figure 3), estimates shown suggest that informal sources of finance have the largest share of rural financial markets. Several factors contribute to this lack of formal financial service provision for rural populations, especially for actors involved in agriculture and agricultural value chains. These relate to a lack of knowledge about rural clients, mainly those engaged in small-scale enterprises, and thus an inability to respond to their financial needs and effectively measure the risks in servicing these clients. This situation

FIGURE 3
Percentages of the rural population receiving credit and savings services from formal and informal sources, Morocco and sub-Saharan Africa, 2011



Note: Formal financial institutions include banks, non-bank financial institutions, microfinance institutions, credit and savings cooperatives, non-governmental organizations (NGOs) authorized to provide financial services, and other types of institution with government authorization to provide any form of financial service. Informal sources of finance include rural economic actors such as agribusinesses, traders and rural shops, moneylenders, community savings and credit groups, and family and friends.

Source: World Bank, FINDEX database, 2011. http://datatopics.worldbank.org/financialinclusion (accessed June 2016)

also results in banks' current financial technology being too costly to implement with this clientele. Potential innovations in financial technology are constrained by rigid regulatory frameworks that do not consider the characteristics of agribusinesses and rural enterprises.

One specific segment of the rural population that is underserved is composed of rural actors engaged in small-scale agricultural ventures. The financial needs of small and medium farmers, traders and agroprocessors with turnover of USD 10 000–500 000 a year tend to be too small to be considered by traditional banks or investment funds and they have no real collateral, but they are too large to be considered by microfinance institutions that are not familiar with agribusinesses, making this group of clients common users of informal finance (Ghanem, 2015: 20).

Another dimension that limits the presence of the formal financial sector in rural areas and its exposure in the agriculture sector relates to the climate conditions that affect production and other value chain segments in Morocco, especially low and irregular rainfall, which is associated with undervaluation and overexploitation of water, with desertification already affecting 92 percent of the national territory (Daoud, Lyagoubi and Harrouni, 2014).

In addition, there are problems with land tenure and land titles, which are usually needed to obtain access to formal financial services. Usable agricultural land is very limited and very fragmented (with 70 percent of agricultural holdings being smaller than 2 ha), and land legislation is very complex and diverse, resulting in a very low level of land registration (Jaouad, 2011).

The main challenge for financial institutions is to acquire more knowledge about rural clients, their farm and non-farm activities, and their financial needs. With this knowledge, institutions could develop products and services, delivery channels and internal management processes that are cost-effective and that make the delivery of rural and agricultural financial services economically feasible. Segmenting clients into different categories of producer, trader and processor in agricultural value chains would enable financial institutions to identify client niches where their comparative advantages could best be put into play.

3.2 MAIN OPPORTUNITIES

While agricultural financing and investment in Morocco face major challenges, there are also major opportunities.

The dominance of informal financial markets in rural areas suggests that clients are already paying for some financial services. In addition, given that informal financial services are known to be limited in terms of being costly, lacking diversity and being restricted to few clients in certain value chains and regions, all of this suggests that there is potential to increase the provision of formal financial services, not only for producers but also for traders and processors, most of whom operate at a small scale (FAO/*Academia de Centroamérica*, 2016).

In recent years, the Central Bank (*Bank-al-Maghrib*) has strengthened regulation and supervision in line with international standards, and the financial system in Morocco proved to be relatively resilient to the international financial crisis. There is therefore a good overall context for the provision of financial services. In addition, prospects for the development of rural areas and the agriculture sector are promising.

The growing population (with annual growth of 1 percent) and increasing living standards in Morocco (with GDP per capita of about USD 8 000 purchasing power parity and GDP growth of about 5 percent per annum) (World Bank, 2016) constitute a large and growing national market, while proximity to Europe and greater commercial integration in the Arab and African regions create a large and growing international market. Morocco's labour force is still relatively cheap, but relatively highly qualified, with small and medium farms having great potential to increase their profitability and expand.

Many partnerships at the national and international levels have yet to be fully exploited, and have already started under the Green Morocco Plan. The involvement of the public sector in supporting investments in agriculture (often through direct and indirect subsidies) is decreasing, while the involvement of the private sector increases. All of these are enabling conditions for the development of rural financial markets.

There are no restrictions to participation in primary and secondary markets in Morocco so all investors have equal access – domestic investors remain dominant – and are the focus of government support plans. Regarding international investments, capital from outside the Arab region, especially from Spain and France, dominates, while the Arab region is also an important source of capital for Moroccan agriculture and could be further mobilized (Jaouad, 2011).

Chapter 4

The Case of *Tamwil El Fellah*

4.1 THE AGRICULTURAL CREDIT OF MOROCCO GROUP

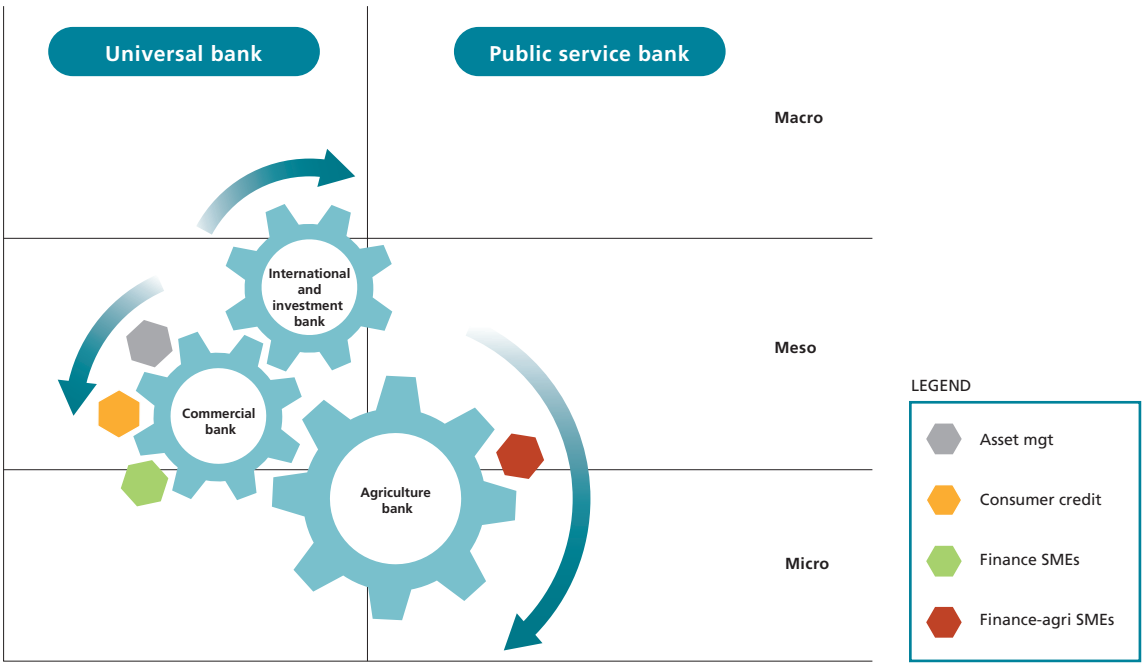
The Government of Morocco is very conscious of the challenges and opportunities for rural and agricultural development in the country, as reflected in the coordinated and synergistic implementation of the Green Morocco Plan carried out by all government agencies. This high level of coordination is itself an important institutional innovation driven by a clear vision at the highest levels of government. It ensures technically consistent and cost-effective public programmes that make agriculture and the rural economy a catalytic engine of growth for an inclusive and diversifying national economy in the medium to long term.

This case study documents an innovative agricultural finance model for smallholder families known as *Tamwil El Fellah* (TEF) developed by GCAM in response to the need to ensure synergies among the many government initiatives aiming to promote inclusive rural and agricultural development.

GCAM and its business model

GCAM is a universal bank with investment and commercial bank activities and highly diversified and specialized financial products and services for the agricultural, commercial and real estate sectors (Figure 4). It is the result of evolution of Morocco's Agricultural Development Bank,

FIGURE 4
Synergies within the Agricultural Credit of Morocco Group's universal banking system



Source: adapted from CERCAM, 2015b.

which began operations in 1961 and has been transformed – through a strategy of market diversification and client knowledge – into a profitable limited liability company offering capital shares to public institutional investors and the private sector. GCAM has a new governance structure with executive and supervisory boards, and a new management and information system that ensures traceability through automated transactions.

GCAM has adopted an integrated structure with differentiated offers of products and services that are adapted to different segments of Moroccan economic sectors. Client segmentation (based on historical secondary data and recent primary data, analysed through an adapted information management system) is especially important for product adaptation in the agriculture sector, and has been fundamental in framing GCAM's interventions in agriculture. This tailoring according to client segments has been a major factor that differentiates GCAM's financial offer from those of other banks. The strengths of the GCAM model are the proximity of its distribution network to clients, and its strategy for and the quality of its human resources, including its expertise in agricultural and food management systems.

The investment bank, commercial bank and agricultural bank are separate but complementary structures within the group. They operate in synergy, although each banking unit specializes in a particular market segment.

This synergy among different units and their specializations represents a critical element of the bank's added value and risk management model. As smaller-scale operations in the agricultural market have relatively higher costs than larger ones, the operational costs of providing services for poorer smallholder families are implicitly cross-subsidized by commercial banking. This cross-subsidization occurs mainly through leveraging of human resources, agricultural market knowledge and infrastructure among the groups that make up GCAM. In addition, the vast diversity of the portfolio (gathering information about trading, processing and exporting chain segments) facilitates risk management, allowing greater aggregate exposure to the agriculture sector. With a network of 850 agencies, a workforce of approximately 4 000 employees, a balance sheet of Dh 87 billion (nearly USD 10 billion), net income of approximately Dh 500 million and credit across the economy of more than Dh 67 billion, GCAM is among the leading Moroccan banks operating in the market. About 70 percent of its credit portfolio is allocated to agriculture, the food industry and the rural world (CERCAM, 2015a).

The bank's intervention in the agriculture sector derives in part from its public service mission. There is a strategic logic to the structure of GCAM, in which the linking of a commercial bank to an agricultural bank enables innovation and the application of expertise in financial service provision to the untapped rural and agricultural financial market. Through its ability to adapt to its environment and market, GCAM is one of very few agricultural development banks in the world that survived the collapse of this type of structure during the 1980s and 1990s (CERCAM, 2015b).

The bank's adaptability is based on the important principle of sovereignty to impose its own governance and management decisions over public authorities. In a break with the past, credit applications are reviewed by committees made up of GCAM units at the local, regional or central level, creating full detachment of the bank's management from public authorities. Therefore, in agricultural financing, a farm is treated as a normal company requiring cash to finance profitable and productive investments that add value. National agricultural policy and GCAM's public service operations in agriculture and rural areas are supported through agreements that specify the target population, the eligibility criteria and the modalities of intervention, clearly defining the rights and obligations of each party.

GCAM's role and strategy within the Green Morocco Plan

The Moroccan agricultural market comprises about 1.5 million farms and GCAM's interventions are adapted to the different categories of actor in this market.

Businesses and farms with access to formal banking represent 10 percent of the rural financial market, covering 22 percent of the agricultural area and 30 percent of irrigated areas (*L'Economiste*, 2011). These farms meet creditworthiness criteria and are target companies under pillar I of the Green Morocco Plan, so GCAM finances them in a strictly commercial manner, differentiating its services to different customer segments through its local business agents and regional business centres, in competition with the overall banking system. GCAM is the undisputed leader in this segment, serving at least 20 percent of the potential market. From 2008 to 2012, GCAM granted these farms Dh 14 billion in credits (*L'Economiste*, 2011).

The segment of small and micro rural entrepreneurs represents 40 percent of the rural financial market and derives its income from several non-agricultural rural activities. GCAM serves this clientele segment through the ARDI Foundation, its microcredit institution, which focuses its strategy on providing short-term loans in rural areas. The foundation had more than 110 000 active customers in 2015 and Dh 300 million in outstanding loans. Its aim for 2017 is to reach 200 000 customers with Dh 800 million of loans (CERCAM, 2015c).

Falling between the target markets for microfinance and commercial banking are smallholder families who do not fit into the conventional banking approach given their total lack of collateral. This segment represents 50 percent of the rural financial market and covers 70 percent of the agricultural area and 65 percent of irrigated areas. Access to finance is particularly difficult for this segment because the farms are small and the farmed area fragmented. Low productivity, high dependence on climate conditions, insecure land tenure and low education levels among the population, and the advanced age of farm managers are other factors contributing to their exclusion from formal financial markets. However, these families are able to use informal financial services received through family and friends, community savings and credit groups, local moneylenders and rural businesses.

Microfinance products do not match the agricultural finance needs of this clientele segment, particularly because their production cycles are not compatible with the structure of microcredit loans and the size of their credit needs exceeds the loan size limits typical of microfinance. Until GCAM established a subsidiary with the mandate to provide financial products adapted to this segment, the only funding available was in the informal sector, which operates at much higher costs.

In 2007, as part of implementation of the Green Morocco Plan, the government stressed the need for GCAM to provide financing for the up-scaling of irrigation investments benefiting smallholder families through a multi-government agency programme providing technology transfers, technical assistance, access to markets and financing for targeted families. This call encouraged GCAM to develop a specific lending model for this client segment that could not be serviced through either the conventional banking or the microfinance model (CERCAM, 2015c).

Following a research and development process for this new lending model, GCAM launched its new subsidiary *Tamwil El Fellah* (TEF) with the support of a partial credit guarantee from the State. The model focuses on designing financial products that are adapted to the specific agricultural and financial needs of groups of smallholder families, ensuring that their investments are viable and relying on an effective partnership with the Ministry of Agriculture and Fisheries and the Agency for Agricultural Development. These partners provide technical assistance to ensure that smallholder families and their organizations can develop their entrepreneurial skills, knowledge and access to the necessary tools for responding to the demands of expanding agricultural value chains serving local, regional or international markets (Figure 5).

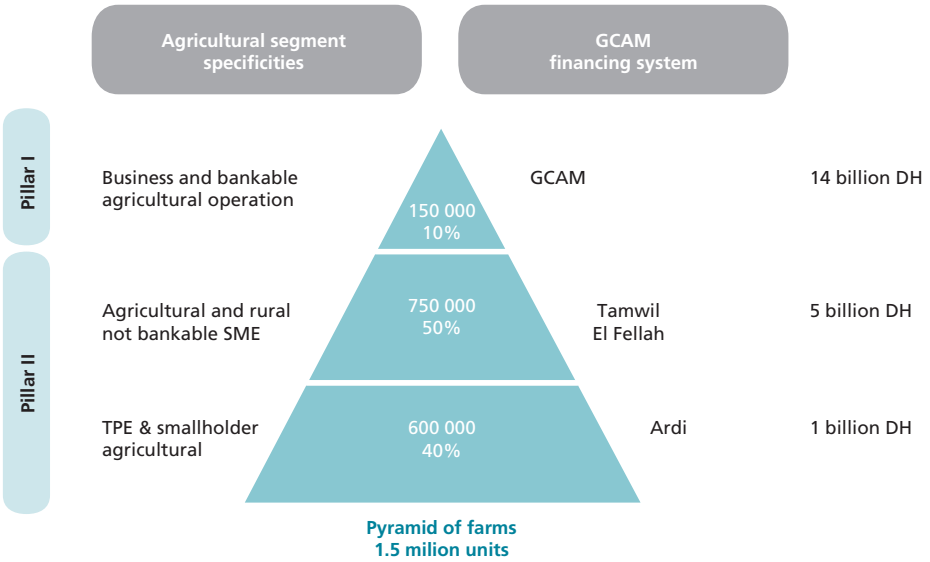
4.2 TAMWIL EL FELLAH

In April 2008, GCAM established the agricultural development finance corporation TEF as a subsidiary. TEF became functional in 2010. In accordance with the agreement signed with the government and the approval of the Central Bank, TEF specializes in agricultural lending for smallholder families with no collateral (those in the middle of the pyramid in Figure 5). TEF is a 100-percent subsidiary of GCAM and was founded as a public limited company. The governance system is composed of a board of directors and executive management. Initial share capital of Dh 100 million was fully paid by GCAM (TEF, 2015).

A critical innovation of TEF is that the Central Bank agreed to modify its risk categorization rules for TEF's credit portfolio, adapting them to the longer business cycles in agriculture compared with those in services or manufacturing. This agreement was made after a process led by GCAM to explain to regulators the features of smallholder agriculture. As a result, the periods for which a loan can be considered pre-doubtful, doubtful and compromised – the Central Bank's categories for determining portfolio risk levels and consequently reserve requirements – were extended beyond the prevailing banking standards only for TEF, to 12, 24 and 36 months, respectively. These extensions allow TEF to increase its portfolio without damaging the liquidity and operations of other GCAM subsidiaries, which was a critical precondition for TEF's creation.

A thorough analysis of the target population's needs, conducted by public authorities and GCAM, concluded that one of the main barriers for financing agricultural and rural SMEs is

FIGURE 5
The Agricultural Credit of Morocco Group's involvement in financing the agriculture sector under the 2020 Green Morocco Plan



Note: Figures for October 2011.
Source: L'Economiste, 2011.

that they do not meet the standard conditions and risk mitigation measures that banks impose, particularly those related to guarantees. There is also need for technical guidance on rehabilitating farms after commercial and financial crises and for strengthening the management capabilities of farmer associations and cooperatives.

The overall structure was therefore conceived to apply a collaborative approach with delivery of financial services led by TEF and non-financial services led by specialized partners from the public and private sectors. Although the initial focus was on beneficiary farmers of pillar II projects under the Green Morocco Plan, TEF has extended its outreach to include agricultural SMEs with similar characteristics, even if they are not part of current government support programmes.

So far, TEF has provided agricultural loans (for inputs, working capital and investments) to smallholder families and small-scale agribusinesses only. The main feature of these loans is that they are for a maximum of USD 10 000 per client (even if the loan is delivered through a cooperative or association), with USD 2 000 for inputs and working capital and USD 8 000 for investments. The loan period can range from 12 months to five years with annual interest rates of 8 percent for working capital and 8.5 percent for investments with reducing balances (TEF, 2015).

To complement its services, TEF relies on the infrastructure and services of GCAM to offer savings accounts, short-term consumption loans, payment services, life insurance and, to a lesser degree, agricultural insurance.

The provision of this wide variety of financial services has contributed to increase the value proposition offered to smallholder families. This is because smallholder families have diverse financial needs for their diversified livelihoods and – given that these families tend to have access to very few types of financial product – the offer of a bundle of services that include agricultural loans becomes very valuable.

However, the ways in which individual family members use the different financial services offered by different groups within GCAM have not been monitored. Such monitoring would make it possible to evaluate precisely how much the different financial products offered are actually complementing each other.

4.3 RISK MANAGEMENT MECHANISMS FOR *TAMWIL EL FELLAH*

The general risk management model: merging support from different partners

TEF's involvement in service provision focuses on agricultural activities rather than the development of financial and non-financial instruments. The first step in establishing the TEF model was the creation of a partial credit guarantee fund, or Prudential Stabilization Fund (PSF) in 2009 with government funds securing 60 percent of TEF's

portfolio at all times. The PSF is directly managed by GCAM, which is a critical enabling factor in assuring the compliance of the guarantee coverage. The PSF was allocated a budget of Dh 100 million (Hoessler, 2013).

The second step was the establishment of formal agreements with government partners to establish a system for delivering technical assistance to smallholder families, providing education on production, commercial and financial management. These partnership arrangements led to creation of the Regional Office of the Agricultural Council and the Agency for Agricultural Development, which work with GCAM to coordinate the delivery of technical assistance through government programmes that support rural and agricultural development. This involvement of government programmes has been essential for TEF's performance.

To enhance coverage, TEF has developed partnerships with associations and NGOs operating in geographic areas where no government programmes are present. Examples include agreements with the Moroccan Association of Importers of Agricultural Machinery, the Moroccan Association for Sprinkler and Drip Irrigation, and the National Association for the Commercialization of Seeds and Inputs. These associations facilitate access to finance by acting as aggregators to reduce transaction costs for TEF. They have a long history of working with their members, enabling them to screen the creditworthiness of loan applications and provide technical assistance and support services to their members, to ensure the feasibility of clients' agricultural investments (*L'Economiste*, 2011).

Land tenure and land titles

A significant barrier to rural land registration is the high number of land parcels with multiple owners. In Moroccan agriculture, landownership and tenure are divided into two systems: the traditional system, based on Muslim law and local traditions; and the modern formal system, also called the "books system". The financial sector recognizes only land registered in the books system as a usual form of collateral, but only 15 percent of agricultural land is registered in this system, excluding most smallholder families.

The government has made important efforts to establish an agricultural insurance system linked

BOX 2

Titles and documents certifying rights to land or other property that TEF's clients can use as collateral

1. Land title: registered in the land registry.
2. Requisition: certifying that land is in the process of being registered at the land registry.
3. *Moulkia* (Muslim ownership title): established by notaries of Muslim law, or *Adouls*, and certifying that the land is owned by the client. The original of the title is required along with a property pledge agreement.
4. Agricultural pledge agreement: in case of default on payments, the bank can seize the farmer's agricultural production.
5. For financing of agricultural equipment, the equipment's ownership card is requested along with the pledge agreement for hardware and equipment.
6. Deed of usufruct: these documents attest to the legal right to use a portion of collective land under the management of the Ministry of the Interior. They apply to property belonging to an ethnic community. Collectives and collective property represent about 15 percent of the agricultural area (1.3 million ha) in Morocco. As this kind of ownership is managed and controlled by the Ministry of the Interior, selling and buying transactions are not possible. Renting is possible, but very limited.
7. Land titles under the Heritage Act and Traditional Muslims.
8. Rental agreement.
9. Proof of occupation of forest area, for beekeepers.

PHOTO: JUANA RAMÍREZ

Source: TEF.

to credits for smallholder families in order to reduce exposure to risk. The system is heavily subsidized to reach smallholders, but currently it is estimated that only 10 percent of agricultural areas can be insured.

To overcome the current lack of traditional guarantees among smallholder families, GCAM and its subsidiary TEF have developed alternative options for attesting land tenure or usufruct rights. The type of guarantee requested depends on the type of public programme or project in which the client is participating, the activity being financed and the legal status of the land. TEF provides solutions adapted to different situations, implying that in the loan underwriting process, a variety of proofs of land tenure and usufruct are accepted and have weight in the decision-making process for loan approval. The forms of land tenure shown in Box 2 can be considered based on a deep understanding of their implications for the success of the agricultural enterprise.

Risk management strategies from the client's perspective

TEF builds on GCAM's long-standing experience in financing the agriculture sector and its network of agencies and human capital. A combination of factors such as human resources specialized in agricultural lending, physical infrastructure, mainstreamed processes and new ICT technologies constitute the main pillars of TEF's operational and risk management strategies.

TABLE 1
Features of *Tamwil El Fellah*'s risk management

Feature	Benefits and implications
Proximity to clients	- Qualified human resources who are experts in agriculture processes and value chain dynamics in the regions in which they work, and aware of economic and socio-cultural aspects of the target population - "Knowing your clients", their families, farms, production systems, technical expertise, relationships with all market actors, and other non-farm income generating activities - Regular visits to farms to build relationships and trust - Monitoring of the implementation of funded investments and activities
Adequacy of loan products and support services	- Technical support and advice to customers through partners - Assurance of the adequacy of maturities and clients' ability to repay included as part of loan agreements - Simplified procedures adapted to clients' needs and situations - Responsiveness to customer demand - Transparency of rates, commissions, fees, penalties, etc. - Bundling with insurance products, when possible
Customer service	- Customers' feedback on loans - Environmental assessments and contingency plans for managing droughts and selling prices - Awareness raising on and implementation of solutions for potential economic difficulties - Advice to clients, including on ensuring adequate funds in their bank accounts in time for repayment deadlines
Scoring system	- Modelling and risk assessments for each farm, based on analysis of the customer, his/her operations, the project submitted for funding and the client's past relationship with the bank - Use of the final score to decide whether loan approval should be at the branch or headquarters level, depending on the level of risk. This speeds up the loan approval process
Guarantee fund (PSF)	- Exclusive eligibility for small and medium farms with difficult access to traditional bank financing (land constraints, small land areas with irrigation potential, fragile populations) - Coverage of 60% of the risk by the State with a sustainable default rate geared towards promoting productive investment - Capped level of loans per customer and customer organization (cooperative, association, other)

Source: CERCAM (2014)

These strategies have five features: i) proximity to clients; ii) adequacy of the loan products and support services offered; iii) effective customer service; iv) TEF's guarantee fund (PSF); and v) TEF's credit scoring system for managing and evaluating risk (Table 1).

The risk management model starts by gathering standardized primary information from smallholder farming families. This information is fundamental in developing understanding of customers' needs and constraints and adapting offers accordingly, particularly when seeking to increase secure access to and use of financial services.

TEF has developed a process for collecting valuable information on the characteristics and financial flows of Morocco's agricultural market. This process is essential in evaluating credit risks and ensuring timely investments and appropriate information management systems. The process is illustrated in Figures 6 and 7.

Knowledge of clients, their needs and constraints and of the performance of the markets in which clients participate has relied on senior loan officers in GCAM's core agricultural loan departments. These officers are seconded to TEF to train newly recruited TEF loan officers. The knowledge of these GCAM loan officers has been well used in TEF's operating model, resulting in a sustained increase in the TEF portfolio while enabling it to remain healthy, as discussed in section 4.4.

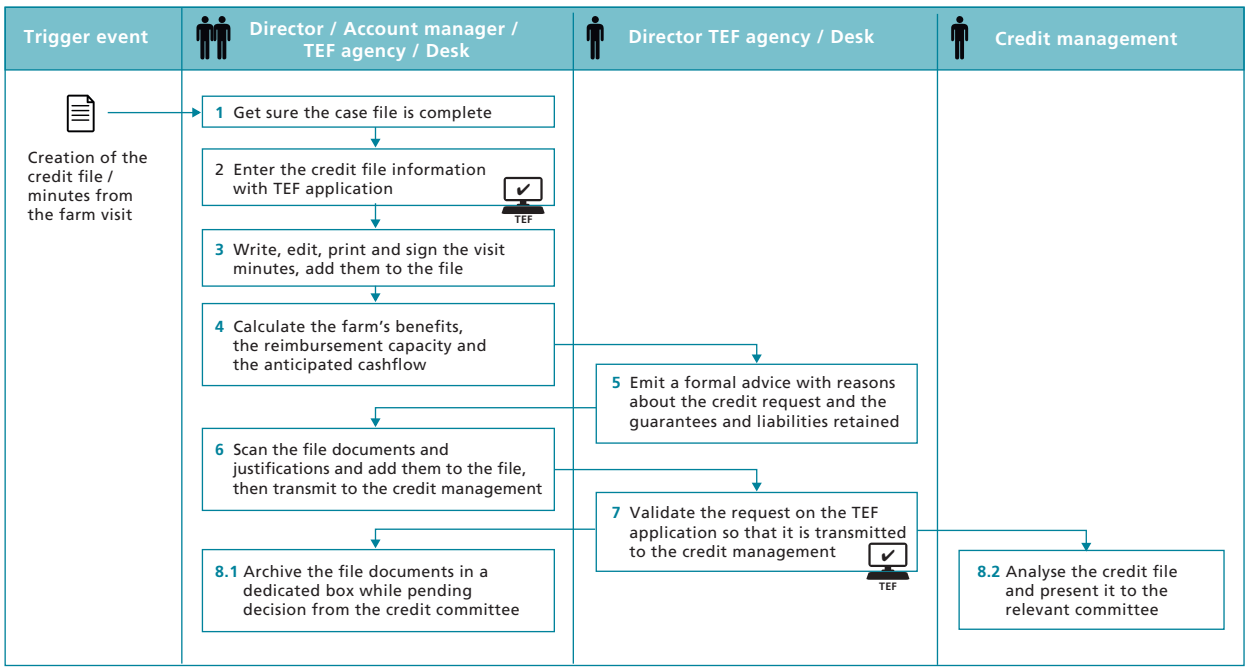
However, dependence on seconded staff while TEF loan officers are trained has limited TEF's growth. A current focus of TEF management is to accelerate the training of TEF loan officers so that they can lead operations independently, by implementing tailored capacity development and mentoring programmes.

The scoring system

The scoring system is an innovation applied by TEF to enhance the quality of its services for smallholder families.

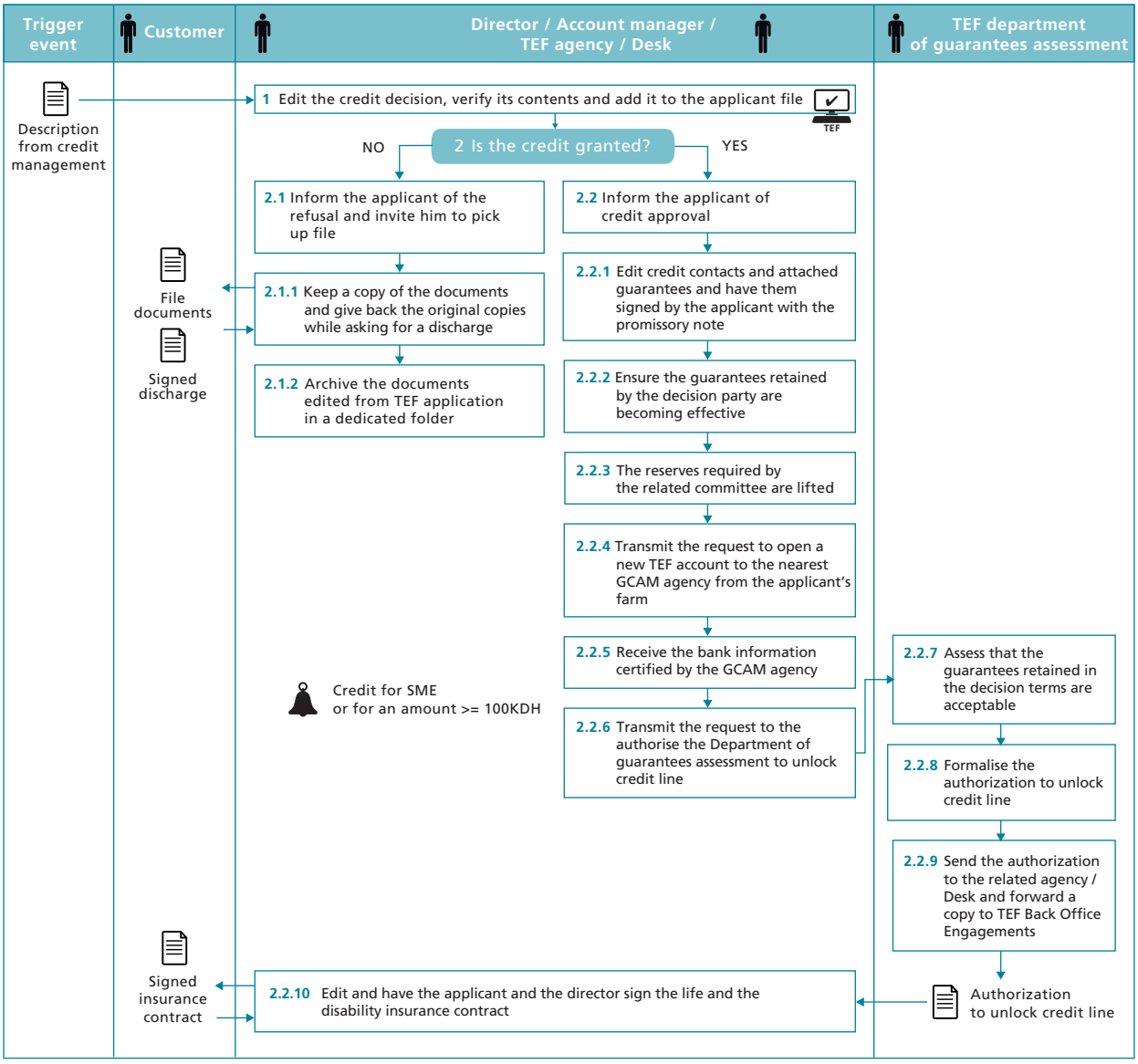
The system assesses the level of agricultural risks based on information gathered through the credit disbursement process. Information on the credit applicant, her/his farm, financial project and past relationship with the bank and partners is processed in a scoring system with set parameters for evaluating risk and ensuring compliance with prudential regulation requirements. The current standards applied in the scoring system are based on GCAM's experience in the field; the information is classified and evaluated according to these

FIGURE 6
Assessment process for building up a *Tamwil El Fellah* credit file



Source: Author's adaption from TEF, 2013.

FIGURE 7
Process for approving a *Tamwil El Fellah* credit disbursement



Source: Author's adaption from TEF, 2013.

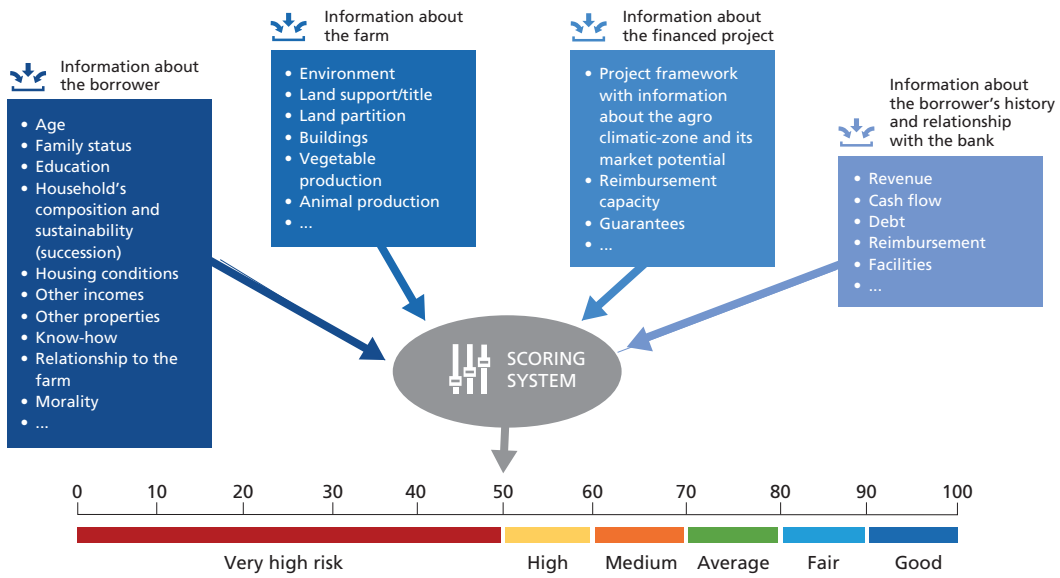
norms, which determine the level of risk of credit applicants. There are six risk categories: very high, high, medium, average, fair and good (Figure 8).

The advantages of this system are:

- automation of the information flow, allowing standardization of the credit process and facilitating scale-up;
- elimination of human error in guaranteeing a fair and equal risk appraisal for every applicant based on a standard process;
- ability to assign different financial conditions to different clients with different levels of risk;
- ability to decentralize final decisions regarding credit disbursements – regional directorates decide on loan applications for risks considered average to good, facilitating faster responses to client applications. TEF loans are processed in an average of five days, which is far shorter than the ten days under common banking standards. This speed fosters controlled portfolio expansion.

Over time and through continuous use of information and scoring systems, TEF will develop more profound and accurate market information allowing more refined portfolio and market seg-

FIGURE 8
***Tamwil El Fellah* scoring system**



Source: Author's adaption from CERCAM, 2015b.

mentation. This capacity will be critical for the financial stability of the model and its prudential stabilization fund. However, the credit-scoring model does not replace human decision-making on loan applications, but rather helps speed the decision-making process to provide a response to a credit request. It is also essential to evaluate the risks faced by farmers across the country and to take into account the conditions of different agroclimatic zones.

Rainfall is a determining factor in the loss of crops. Therefore, TEF's scoring systems use the categorization of zones provided by the Ministry of Agriculture and Fisheries to classify applicants' levels of risk, taking into consideration the zone where they are located and the agricultural activity in which they are investing. Table 2 provides some of the characteristics of each agroclimatic category. The categorization of zones takes into account geopolitical factors and annual average rainfall. As favourable or unfavourable climate conditions determine the level of risk, it is important to take into account the specificities of crops and their performance in each type of zone. This type of analysis has been crucial in determining agricultural conversion strategies financed by TEF in the framework of the Green Morocco Plan, such as the substitutions of cereal production for arboriculture or the promotion of financing for new and more efficient irrigation systems.

TABLE 2
Agroclimatic zones and average rainfall levels

Climate zone for agriculture	Climate bio-stage	Representative province	Average height	Annual average rainfall level
Favourable	Semi-humid inferior	El Hajeb	510 – 800 m	580 mm
Intermediary	Semiarid	Settat	290 m	350 mm
Unfavourable	Semiarid inferior	Oujda	450 m	280 mm
Mountain	Cold semiarid	Boulemane	2090 m	309 mm
(Saharan) Oasis	Saharan / Oasis	Errachidia	1029 m	115 mm

Source: Ministry of Agriculture and Fisheries and General Council of Agricultural Development, 2009.

In the context of climate change, rain cycles are subject to change and are therefore no longer predictable. As water scarcity and unpredictable rainfall cycles challenge the design of adapted agricultural production practices, more granular and systematic information on farmers and their farms and crops can inform the design of rapid alert systems and strategies for climate change adaptation. TEF's operations and investments in information management systems are very important in this area. The data collected will feed into a database of current and updated information on farmers' creditworthiness, the conditions of their farms and the environments in which they operate.

Continuous use and improvement of TEF's scoring system and client database can also help to develop more accurate risk management models, benefiting the Moroccan financial system as a whole. Accurate historical data to support risk appraisal are fundamental to the operability of a financial instrument such as the PSF, which evaluates and covers the risks of financing farmers without access to banks and with alternative guarantees.

The Prudential Stabilization Fund

As mentioned earlier in this section, the partial credit guarantee fund – the PSF – helps to alleviate a common restriction facing the banking sector in serving smallholder families in rural areas – the need for collateral from clients to comply with prudential regulation standards. As part of GCAM, TEF needs to comply with these standards and with capital adequacy ratios. It also needs the capacity to provide sustainable services and ensure its financial sustainability.

GCAM designed the PSP as a portfolio guarantee covering 60 percent of the total outstanding loan portfolio of TEF. The remaining 40 percent is at the risk of TEF and the client. In case of default, TEF carries out all the actions established in the protocol to recuperate the loan, with the PSF compensating TEF for any arrears only after three years – the time it takes for a loan that has fallen into arrears to be formally considered a default. This timing was agreed to by the Central Bank based on supporting considerations provided by GCAM and reflecting the nature of agricultural investments and the time needed to recover lost crops (Hoessler, 2013).

The three-year cycle for the PSF's activation is based on an analysis of agricultural economic activities. For example, a farmer who has invested in crops such as cereals, olives or fruit and who suffers a loss because of a climate event, will have no crop to sell and will be unable to recover immediately. The farmer will have to wait until the next production cycle, which normally occurs after three or six months, depending on the crop. The farmer will then need at least another two years of revenues from agricultural and non-agricultural activities to be able to repay a debt while also dealing with the other effects of the loss of income. If by the third year of arrears the farmer does not repay the debt fully, the PSF compensates TEF for 60 percent of the loan.

4.4 PERFORMANCE AND IMPACT OF *TAMWIL EL FELLAH*

Projects and results

Most of TEF's clients are beneficiaries of one of the government's support programmes for rural and agricultural development. In addition, GCAM has developed partnerships with the *Fondation Marocaine pour l'éducation financière* (Financial Education Foundation of Morocco) to provide financial literacy programmes for smallholder farmers, and with INJAZ – a Jordanian organization specialized in education entrepreneurship and bridging the skills gap between the education system and the changing needs of the labour market – on a programme to promote entrepreneurial skills among farmers, which started in 2016. These programmes focus on enhancing cooperative or solidarity-oriented agriculture, usually target marginal zones (in unfavourable territory such as mountains) and have a subsidy component for long-term investments. Technical assistance is provided to ensure that the agricultural activities financed by TEF are economically viable and foster the integration of smallholder farmers into productive value chains.

Figure 9 shows the types of activity financed by TEF. Overall, these are of three main types (TEF, 2014):

- crop conversion projects to grow crops with higher added value, with the main goal of supporting fragile holdings that specialize in cereal production to help them become more profitable and less susceptible to rainfall fluctuations – crops supported include olives, almonds and figs;
- projects for diversifying agricultural activities to create additional income through the promotion and processing of local products such as honey and saffron;
- intensification projects/valuation to improve production processes in the plant and animal

sectors and to train operators in the best techniques for increasing their productivity and the value of their production – products supported include cattle meat and milk, olives and dates.

Projects for financing renewable energy equipment such as solar panels are cross-cutting features of TEF's strategy for financing projects that are profitable and economically sustainable. This type of equipment helps farmers to intensify their practices using the best techniques available to increase productivity and efficiency. Financing of access to solar panels is often linked to the use of water pumps, which are fundamental for crop irrigation: these pumps are usually powered by diesel engines, but can also be powered by solar energy. Changing from diesel to solar power is beneficial for farmers in terms of cost reduction, as well as being environmentally friendly, which is important when considering the expected impacts of TEF's interventions.

TEF operations have broken even after five years and the PSF has been used only for marginal defaults in 2015, representing less than 0.5 percent of TEF's portfolio. The volume of credit disbursed by TEF at 31 October 2015 was USD 129 million among 63 489 smallholder clients, of whom 99 percent had no formal collateral (Figures 10 and 11). More than 10 000 of these clients received loans through their cooperatives. The low representation of women among these clients is notable, with only 1 500 women being direct recipients of a loan (TEF, 2015).

Funded activities include agricultural value chain finance to generate revenue for farmers, and cross-cutting investment projects. At least 1 800 irrigation projects using solar water pumping systems had been financed by October 2015. Although well diversified among different agricultural activities, TEF's portfolio is 97 percent agricultural, with only 3 percent of the credit portfolio financing non-farm activities (TEF, 2015).

The growth rates of portfolio size and number of clients have been very high. The percentage of non-performing loans at 12 months (according to the terminology accepted by the Central Bank adapted to the features of agriculture) was 2 percent for 2015, which is considered healthy.

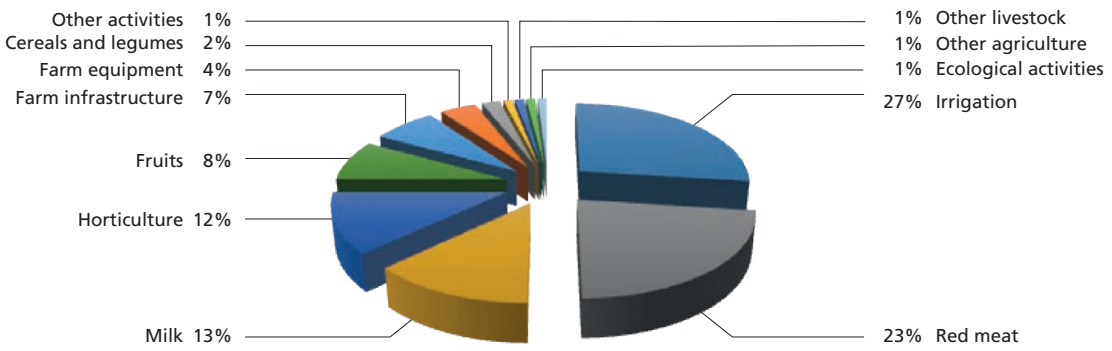
A rigorous evaluation to assess the impact of the services provided by TEF has yet to be conducted. This exercise would be very useful, given that agricultural loans that allow such flexibility are scarce throughout developing countries.

Major challenges and recommandations for *Tamwil El Fellah*

This study identified the following main challenges in TEF's model.

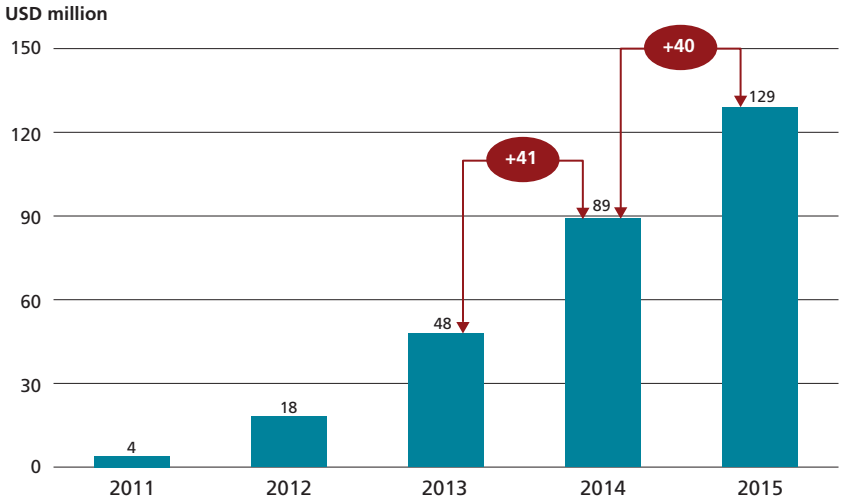
In an effort to foster continuous expansion, TEF has initiated a recruitment process at local branches and agencies. Most of the newly recruited staff are young, local and have an agronomic background. The new recruits are trained by senior GCAM loan officers who are seconded to TEF and have sound skills in loan underwriting based on local experience. TEF's growth potential therefore depends to a significant degree on the number of GCAM officers seconded and their continuous availability, while many are approaching retirement. This initial staffing model of TEF, based on relying on key technical expertise from

FIGURE 9
Activities financed by *Tamwil El Fellah*



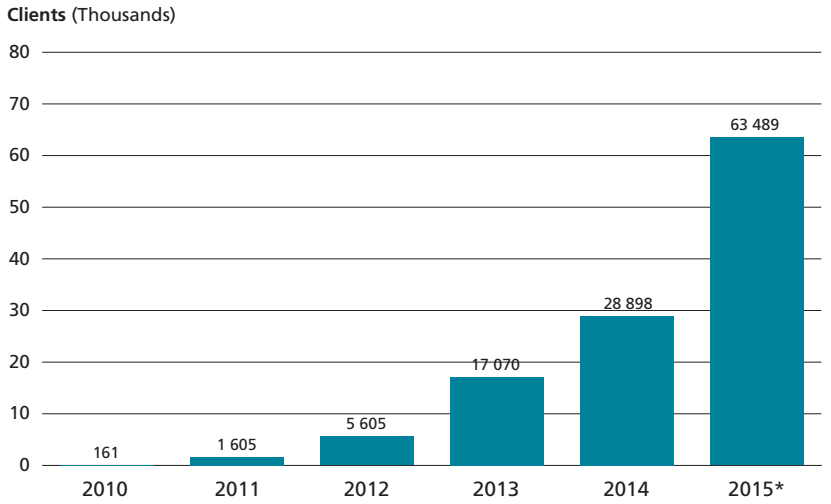
Source: TEF, 2015.

FIGURE 10
Volumes of credit disbursement by *Tamwil El Fellah*



Source: TEF, 2015.

FIGURE 11
Client base of *Tamwil El Fellah*



* up to October 2015
Source: TEF, 2015.

GCAM, puts pressure on GCAM's own operations as it forgoes valuable staff. Knowledge transfer to the new recruits takes a significant amount of time relative to the turnover rate of GCAM secondments to TEF and the desired expansion rate of TEF's loan portfolio. TEF is focusing on developing a strategy for reducing the time it takes for effective knowledge transfer to new recruits so that they have the capability of ensuring sustainable growth in TEF operations.

According to regulations, the maximum loan amount that can be offered by TEF is Dh 100 000 (approximately USD 10 000), of which a maximum of Dh 80 000 is for investment credit and Dh 20 000 for working capital. This overall amount is recognized as being too low to cover the financing

of working capital and investments needed by smallholders. Currently, however, TEF cannot increase it, given the mandatory credit guarantee coverage of 60 percent and the fixed size of the credit guarantee fund. The potential for significantly increasing TEF's credit portfolio depends on increasing the size of the credit guarantee fund (PSF) or reducing dependence on the guarantee fund (by reducing its coverage from 60 percent) while implementing improved risk management strategies. Increasing the size of the guarantee fund has proved to be difficult, but there is significant potential for improving the risk profiling of TEF clients, allowing lower dependence on the guarantee coverage.

Improved risk profiling implies developing a systematic methodology to categorize client risk profiles and differentiate the credit guarantee coverage required by different client categories. Currently, every credit approved has guaranteed coverage of 60 percent, but TEF recognizes that many of its loan clients require much less coverage because of their low risk profiles, while others require more, given their higher risk profiles. By being able to differentiate guarantee coverage needs, TEF could increase the overall size of its credit portfolio and individual loan amounts while keeping the total value of the credit guarantee fund constant. It is likely that as TEF's knowledge of its smallholder clientele continues to increase over time, the aggregate need for credit portfolio guarantee coverage can be reduced below the current mandatory 60 percent, allowing TEF's portfolio to grow without increasing the value of the guarantee fund.

Another way of increasing the potential scale of TEF operations would imply further diversification of TEF's credit portfolio to include more non-agricultural financial services for the rural population. This increase would not be in contradiction with the focus on promoting agricultural development if a reduction in the share of agricultural credit in the total portfolio and a consequent diversification of risk across sectors lead to a sustained increase in the aggregate size of the agricultural credit portfolio. This approach is consistent with the one that GCAM applied during its transformation into a universal bank, which allowed its agricultural portfolio to grow to unprecedented levels.

For the main clients – smallholder families – the diversification of financial services is consistent with their need for a wide set of financial services to be able to manage their diversified livelihoods better and attain their aspirations

Chapter 5
Conclusions

From the global perspective, major lessons can be derived from the TEF model:

- *Institutional innovations*: GCAM takes a holistic approach to serving the agriculture sector, focusing on the overall "ecosystem" of the many products and services that are tailored to specific client segments in different value chains, and leveraging aggregation and interactions among actors in each chain. Synergy among the different financial entities of GCAM is a critical factor in TEF's value proposition to clients, enabling the provision of a wide set of financial services for the agricultural and non-agricultural activities of rural actors (e.g. savings, credit, insurance, transfers). Through this ability to diversify across sectors in the economy, GCAM has been able to increase the aggregate size of its agricultural portfolio to significant levels. In addition, GCAM's deep understanding of agricultural markets – resulting from its interactions with all segments of the main agricultural value chains and with both large- and small-scale rural actors who are interconnected through market linkages – has facilitated the downscaling of operations to include smallholders, who are typically considered "unbankable", and enabled the cross-subsidization of revenues from commercial banking activities to stabilize operations in the agricultural portfolio that serves smallholder families. GCAM advocates with central government, leveraging very effectively with other government programmes to bring non-financial services to clients, such as extension, technical assistance for investment planning, and social programmes providing specific subsidies, all of which contribute to risk reduction and enhance the bankability of smallholder investment projects. In turn, the ecosystem of services received by clients through TEF and the rest of GCAM is likely to be of high value, as reflected by the fast growth in clients and the credit portfolio, while maintaining TEF's good financial health.
- *Management information system*: Integrating farmers into formal financial systems implies innovations not only in products but also in processes. In coordination with other experts seconded by GCAM, TEF has developed a credit scoring system that helps agency directors at the regional level evaluate portfolio risks and make credit disbursement decisions at a more decentralized level. The credit scoring system gives relatively minor weight to guarantees, focusing instead on performance indicators; helps reduce the time needed for approval and disbursement of loans; and allows decentralization of the decision-making process, without restricting appraisal capacity.
- *Delivery and distribution strategy:* GCAM's strength derives from its knowledge of its clients, gained through proximity to these clients and the rural actors they interact with. The professional profile of core officers is in agriculture and food management systems, and they have many years of experience. Knowledge of clients has allowed the bank to avoid requiring real collateral as a condition for loans, relying instead on assessment of the viability of the farming enterprise.
- *Network of solidarity-based microfinance institutions:* GCAM led the establishment of a national microfinance network after the crisis that affected the microfinance sector in 2008. GCAM has seconded some of its staff to the network to provide technical assistance to develop better internal control and information management systems. This enables ARDI, the microfinance subsidiary of the Group, to share information with TEF about its clients. Thus creating the potential for the coordinated provision of a wider menu of financial services to rural

families, who can receive short-term loans and microinsurance from ARDI, long-term agricultural loans from TEF and savings and payment services from CAM.

The overall GCAM strategy of providing an ecosystem of services is consistent with the current state-of-the-art approach of satisfying the demand of rural smallholder families for a wide set of financial services, both general (services that facilitate management of all household activities) and specialized (services that facilitate specific activities such as agriculture), enabling them to manage their diversified livelihoods more effectively and meet their life goals. This diversification implies a need to understand relationships among clients, their household dynamics and the rural economic systems they engage in. To do so, a mix of knowledge is needed on clients and systems to ensure that the value proposition of the products offered meets individual needs and is shaped by the valued relationships that clients have with other rural economic agents.

GCAM's provision of a wide set of general and specialized financial services is also conducive to sustainability, as economies of scale and scope are achieved and cost-reducing processes are facilitated. This ecosystem of services lowers risks and costs while increasing client loyalty. However, it puts a significant burden on institutions, as it requires multidisciplinary skills in their human resources, and complex processes.

For public stakeholders, the GCAM experience is illustrative of the different roles of general and specialized financial products in achieving development goals, to promote much-needed policy-enabling environments for the development of both. Evidence shows that general financial services are critical for resilience, providing stability to existing livelihoods and reducing inequality in the long run. Specialized financial services enable the transformation of livelihood activities in the shorter run, encouraging sector investments that increase competitiveness, which in agriculture have important poverty reducing effects. Recognition of the need to deepen rural financial systems and promote agricultural growth led the Central Bank of Morocco to adjust its reserve requirement regulation for TEF to make it more consistent with the nature of agricultural business cycles.

References

CERCAM. 2014. *Groupe Crédit Agricole du Maroc, Synthèse du Modèle Économique.* Rabat, *Centre des Etudes et Recherches du Groupe Crédit Agricole du Maroc* (CERCAM – Centre for Studies and Research of the Agricultural Credit of Morocco Group). (in French)

CERCAM. 2015a. *Les systèmes de financement de l'agriculture et du monde rural par le Groupe Crédit Agricole du Maroc.* Rabat. (in French)

CERCAM. 2015b. *Le système de financement agricole et rural au Maroc*. Presentation in the framework of an ADA/FAO mission to CERCAM, Rabat, November 2015. (in French)

CERCAM. 2015c. *Société* Tamwil El Fellah*, modèle innovant de financement de la PME agricole et rurale.* Rabat. (in French)

CIA. 2016. *The world factbook.* Fairfax, Virginia, USA, Central Intelligence Agency (CIA). https://www.cia.gov/library/publications/the-world-factbook/geos/mo.html (accessed June 2016)

Daoud, S., Lyagoubi, A. & Harrouni, M.C. 2014. Moroccan agriculture facing climate change: adaptation and local distribution of the value added. *In* M. Behnassi, S.A. Shahid and N. Mintz-Habib, eds. *Science, policy and politics of modern agricultural system: Global context to local dynamics of sustainable agriculture.* Dordrecht, Springer.

FAO/Academia de Centroamérica. 2016. *Estrategias innovadoras de gestión de riesgo en mercados financieros rurales y agropecuarions*, edited by Emilio Hernandez. Rome, Italy.

Ghanem, H. 2015. *Agriculture and rural development for inclusive growth and food security in Morocco*. Global Economy and Development Working Paper No. 82. Washington, DC, Brookings Institution Press.

Hoessler, P. 2013. *Rapport Final de mission Banque Mondiale, Diagnostic de la société* Tamwil El Fellah*, 27 mai–7 juin 2013 et 5–6 août 2013*. Rabat, Tamwil El Fellah. (in French)

Jaouad, M. 2011. Morocco. *In* FAO. *International investments in agriculture in the Near East, Evidence from Egypt, Morocco and Sudan*, edited by A. Tanyeri-Abur and N.H. Elamin, pp. 50–91. Rome, FAO.

KPMG. 2012. *Morocco – country profile*. Rabat.

L'Economiste. 2011. *Le Crédit Agricole au Club de L'Economiste: L'établissement ferme les vanes.* http://www.leconomiste.com/article/887648-le-credit-agricole-au-club-de-l-economiste-l-etablissement-ferme-les-vannes (accessed June 2016) (in French)

Le Matin. 2015. *Le projet de loi sur les GIE adopté par les conseillers*. http://lematin.ma/journal/2015/le-projet-de-loi-sur-les-gie-adopte-par-les-conseillers/217699.html#sthash.h92NrArZ.dpuf (accessed June 2016) (in French)

Ministry of Agriculture and Fisheries. 2009. Plan Maroc Vert. Rabat. http://www.fellah-trade.com/ressources/pdf/Hajjaji_Plan_Maroc_Vert_Strategie.pdf (Powerpoint presentation, accessed June 2016) (in French)

Ministry of Agriculture and Fisheries & General Council of Agricultural Development. 2009. *Adaptation de la petite agriculture au changement climatique.* Rabat. (Powerpoint presentation) (in French)

Ministry of Economy and Finance. 2013. *Stratégie de développement agricole: le Plan Maroc Vert*. Rabat. http://www.finances.gov.ma/fr/Pages/Strat%C3%A9gies/Strat%C3%A9gie-de-d%C3%A9veloppement-agricole--le-Plan-Maroc-Vert.aspx?m=Investisseur&m2=Investissement (accessed June 2016) (in French)

TEF. 2013. *Manuel de procédures de crédit de* Tamwil El Fellah *(TEF)* No. 03/13/CA, November 2013. Rabat. (in French)

TEF. 2014. *Rapport Annuel 2014*. Rabat.

TEF. 2015. *TEF: Modèle de financement de l'agriculture solidaire.* Presentation in the framework of an ADA/FAO mission to CERCAM, Rabat, November 2015. (in French)

UNDP. 2015, *Human Development Report.* New York, United Nations Development Programme (UNDP).

World Bank. 2016. *Morocco overview*. http://www.worldbank.org/en/country/morocco/overview (accessed June 2016)

Vergne, C. 2014. *Le modèle de croissance marocain: opportunités et vulnerabilities. Macroéconomie et Développement* No. 14. Paris, French Development Agency (AFD). (in French)

Tamwil El Fellah

The Government's Green Morocco Plan (Plan Maroc Vert) underlines agriculture's important role and sets strategies to promote the sector's development. Despite these efforts, however, important challenges remain. An important one refers to the availability of appropriate financial services for rural actors engaged in agriculture. The average capital required yearly to finance agriculture is estimated at 30 billion Dirhams. The Moroccan banking sector finances only 17 percent of such demand and Credit Agricole du Maroc is responsible for about 80 percent of this share of financing to agriculture. A significant part of the rural population composed of poorer households continues to see its financial needs satisfied mainly by informal financial service providers given the inability of the formal financial sector to reach rural areas with appropriate and sustainable products.

This case study documents a particularly innovative model for providing financial services to poorer rural households dependent on agriculture – the Tamwil El Fellah (TEF) model developed by the *Groupe Crédit Agricole du Maroc* (GCAM – the Morocco Agricultural Credit Group). TEF has built on the long-standing experience of financing the agriculture sector and the network of agencies and human resources of GCAM, putting in place its own business model with risk management mechanisms adapted to its specific client segment: farmers with small and medium-scale agribusinesses.

The analysis presented in this study aims to highlight important principles that can be applied by financial institutions and supporting organizations to promote inclusive rural and agricultural financial services in the context of developing countries.

Food and Agriculture Organization of the United Nations (FAO)
Viale delle Terme di Caracalla, 00153 Rome, Italy
www.fao.org

Brought to you by:

CABFIN PARTNERSHIP
CAPACITY BUILDING IN RURAL FINANCE

ISBN 978-92-5-109429-7
9 789251 094297
I6166E/1/09.16