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Morocco: the Visible Hand

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8.1 Introduction

8.1.1 Agriculture

Morocco, on the north-west shoulder of Africa, is bounded by the Mediterranean Sea and the Atlantic Ocean on the north and west, by Algeria on the east and by Mauritania on the south. Its land area of 710,850 km² includes agricultural plains and river valleys, plateaux and the Atlas and Rif mountain chains.

In 2007, Morocco's population was estimated at 30.8 million with an annual per capita gross domestic product (GDP) of \$2497. Agriculture is the largest sector in the Moroccan economy. Depending on the season, agriculture contributes 13 to 20% of the GDP and over 12% of exports. However, it employs 40% of the working population and provides 80% of rural jobs (Government of Morocco, 2006).



In 1996, there were 1.5 million farms, with an average of 5.8 hectares each. Over half of them (54%) were smaller than 3 hectares, but they made up 12% of the cultivated land and 18% of irrigated land (Government of Morocco, 1999). Scarce irrigation makes smallholder farmers vulnerable to drought.

Of Morocco's 8.7 million hectares of farmland, 7.0 million is rain-fed and 1.7 million irrigated. In an average year, irrigated land contributes 45% of agricultural production, 75% of agricultural exports and 35% of farm employment.

Morocco produces many agricultural commodities, especially cereals, grown on 58% of the cultivated land. Production ranges from 2 to 10 million tonnes per year (an average of 6 million tonnes since 2005). Yet production meets only 62% of domestic demand.

The major limits to agricultural growth are scarce land and water, precarious land tenure, climate change, soil erosion, poor access to credit, lack of farmer organizations, rural illiteracy and the low level of technical training.

8.1.2 Policy

Moroccan agriculture has received government attention since independence in 1956, with public investment in agricultural development and over 100 dams to irrigate 1.7 million hectares of land. The government also fixes prices for agricultural commodities, inputs and services. The government has provided other infrastructure (roads, highways, railway, airports and seaports), research, training and extension, marketing and credit.

The 2020 strategy for rural development started in 1999. It seeks to increase agricultural production, employment and income, reduce environmental degradation and improve education, social services and infrastructure (MAPM, 2006).

The Green Morocco Plan, developed in 2008, intends to modernize agriculture and integrate it into the world market, improve human development, upgrade natural resource management and enhance sustainable growth. The policy will develop efficient, market-oriented agriculture with private investment for high value commodity chains, and increase the income of the most vulnerable smallholders especially in dry and mountainous zones, through public and private intensification projects allowing a shift to more profitable commodities. The Plan includes reforms of land tenure, water policy and taxation and the reorganization of the Ministry of Agriculture and Marine Fishery (MAPM, 2008a).

The state has subsidized inputs since 1969. In 2004, the government introduced the Agricultural Development Funds (MAPM, 2008b) to encourage private sector investment in agriculture. In 2004 subsidies totalled US\$40 million (IFAD, 2008) and covered farm equipment, certified cereal seeds, seed and grain storage and laboratory analyses. This encouragement policy was recently reviewed and new arrangements took effect in January 2010. Two categories of farmers are targeted: small farmers with holdings up to 5 hectares and others with larger holdings. For farm machinery and irrigation systems, more favourable specific advantages are offered to small farmers. As for certified seeds, allocated subsidies are given in Table 8.1.



Morocco was one of the few countries that refused to cave in to structural adjustment. It is only now starting to privatize its seed sector.

Table 8.1. Financial incentives to promote seed systems in Morocco. Source: Ministry of Agriculture and Marine Fishery, Morocco.

	Subsidy in US\$ or % of total cost
Seed of bread wheat	\$19 per 100 kg (40% of sale price)
Seed of durum wheat	\$17 per 100 kg (30%)
Barley seed	\$17 per 100 kg (40%)
Sugarbeet seed (imported and sold in Morocco)	\$875 per unit of 100,000 monogerm seeds
Seed of forage species (maize, sorghum, vetch)	30% of sale price
Sugarcane planting material	\$19 per tonne
Seed processing facilities (buildings and equipment)	10%, up to \$187,500 per project
Cereal storage facilities (buildings and equipment)	10%, up to \$400,000 per project
Cold storage facilities for agricultural products	10%, up to \$280,000 per project

8.1.3 Seed systems in Morocco

There are two kinds of seed: certified and common or farmer seed. There is no in-between category. Certified seed is supervised by the Seed and Planting Material Control Service; common seed is unregulated and is distributed with no quality restrictions. However, public subsidies are directed to certified seed only.

Cereal and legume seeds are produced every year on 60,000 hectares, to meet national demand. The use of certified seed in Morocco remains low except for sugarbeet and vegetables (Table 8.2).

The seed system includes national and foreign seed producers, producers' associations, importers and exporters of seed and planting material, research institutions, farmers, government and

two national seed traders associations (AMSP – Association Marocaine des Semences et Plants; AMMS – Association Marocaine des Multiplicateurs des Semences). There are

Table 8.2. Certified seed use in Morocco. Source: AFSTA, 2006.

Crop	Area sown (1000 ha)	Use (%)
<i>Cereals</i>	4,748	11
<i>Spring cereals</i>	407	10
<i>Legumes</i>	420	3
<i>Fodder</i>	460	10
<i>Oilseed</i>	120	10
<i>Potato</i>	56	30
<i>Sugarbeet</i>	65	100
<i>Vegetables</i>	174	65

a few private seed companies that produce and export seed of some vegetable crops. Although government incentives exist for seed export, the country has no ambition to develop regional seed enterprises.

Seed laws. Morocco is a member of the International Union for the Protection of New Varieties of Plants (UPOV), the International Seed Testing Association (ISTA) and the African Intellectual Property Organization (OAPI).

Morocco has a legal, technical and administrative framework for adequately monitoring the seed and planting material produced or imported in the country, in compliance with international regulations (ISTA, UPOV, OECD and EU). Existing seed laws and regulations cover the protection of new varieties, official catalogue of plant species and varieties cultivated in Morocco, seed control and certification and seed marketing. Major components of the Moroccan seed system are:

Varietal development. The Institut National de la Recherche Agronomique (INRA), a public organization, breeds new varieties, especially cereals, legumes and sugar beets. Varieties of other crops are imported mainly from Europe, USA and Australia. New varieties are submitted for varietal testing and release.

Varietal testing, release and protection. The Seed and Planting Material Control Service decides on release after 2 years of variety trials in at least two locations, compared with local checks. The trials are supervised and approved by a national committee of crop experts. Since 1978, about 5000 varieties have been evaluated and half of them released. The Moroccan official catalogue has more than 1800 varieties adapted to various regions, of which 90% belong to the private sector (AFSTA, 2006).

Seventy crop species are protected in the country and 240 varieties originate from INRA, of which 219 are from annual crops (Table 8.3). The plant breeding companies pay 500–1000 dirham (\$60–\$120) for each registration in the catalogue.

Seed multiplication. INRA produces breeder seed for its own varieties. Private or national seed growers produce foundation seed and certified R1 and R2 seed of these varieties. One parastatal organization, the National Seed Marketing Company (SONACOS–Société Nationale de Commercialisation de Semences, which became privatized in 2007), multiplies seed of most INRA varieties and pays

Table 8.3. Achievements of INRA annual crops breeding programme. Source: INRA

	Number of released varieties
<i>Durum wheat</i>	35
<i>Bread wheat</i>	25
<i>Barley</i>	24
<i>Oat</i>	17
<i>Maize</i>	21
<i>Rice</i>	17
<i>Broad bean</i>	6
<i>Chickpea</i>	11
<i>Lucerne</i>	3
<i>Vetch</i>	9
<i>Lentil</i>	9
<i>Bean</i>	6
<i>Cotton</i>	9
<i>Sunflower</i>	4
<i>Others</i>	23
<i>Total</i>	219

royalties based on commercial seed sales, up to 2.5% for wheat and 1.5–2.5% for food legumes. SONACOS also pays a lump sum for every newly released variety.

Seed processing. This includes drying, cleaning, sorting, calibrating, treating, packing and labelling. INRA has five units to process breeder seed. SONACOS and other seed enterprises have facilities to process foundation and certified seed.

Seed quality enforcement and certification. The Seed and Plant Material Control Service (SCSP – Service de Contrôle de Semences et Plantes) is the official agency in charge of seed certification at all stages of production, processing, storage and marketing of seed. Seed is inspected in the field, laboratory and postharvest. The Service has 129 employees and 14 regional offices.

Monitoring ensures that new varieties remain high yielding, adapted and resistant to disease. It also protects breeders' rights to encourage variety owners to provide the Moroccan market with their best varieties, providing farmers with good, healthy seed and planting material.

Specific seed regulations cover cereals (durum and soft wheat, barley, triticale, oats, rye and rice), food legumes (broad beans, peas, lentils, chickpeas and beans), forage legumes (lucerne, clover, purple clover, forage peas, vetch and lupin), sugarbeet and forage beet, cotton, maize, oil crops (sunflower, safflower, rapeseed, flax, soybean and groundnut) and standard seed (mainly vegetables).

Seed certification is based on both field and laboratory results. Ten thousand samples, all crops combined, are analysed per year. Farmers pay 2.5 dirham (\$0.30) for each field inspection and the government covers the remaining cost. Once a seed lot is certified, all bags are sealed with tags inside and outside.

Market promotion and distribution. To obtain a marketing agreement one must have a professional qualification in seed or employ a qualified technician, deal in certified seed of varieties registered in the official catalogue and have a suitable storage facility.

Certified seed is distributed and sold through a network of more than 92 accredited establishments (Table 8.4). Most of them are members of the AMSP seed traders association, created in 1991.

Private seed companies import and export seed of food and forage legumes, maize, oilseed crops and vegetables. Seed of these crops is mainly used in intensive irrigated production systems. Some European companies produce seed of beans, peas and vegetables (onion and carrot) in Morocco and take their production home for processing and marketing. The parastatal seed enterprise, SONACOS, has roughly the monopoly on wheat, barley, rice, potato and sugarbeet. For sugarbeet, all certified seed is imported from Europe. Morocco tried to produce sugarbeet seed in the mountains but the cost was so high that this option was discarded.

Cereal seed prices are set annually at the beginning of the growing season. Seed producer prices are based on the costs of production, transportation and storage plus a



Field inspection is the hallmark of certified seed.

profit margin. Sale prices are also set with an assumed fixed profit margin. In 2009, certified cereal seed received a subsidy of 30% of sale price.

The National Seed Plan adopted in 1997 identified the main limitations for the use of certified seed: climate, drought, price, low profitability and inadequate varieties, extension and organization. Climate change and recurrent droughts lead farmers to manage risk by reducing their investment in agriculture. Farmers' cash supplies evaporate after several

years of drought. For major staple crops (cereals and legumes), after a good harvest, farmers tend to use their own seed. Also, they buy less certified seed when the price exceeds 1.5 times that of farm-saved seed. Seed enterprises have low profitability, especially for seed of open-pollinated crops. There is a shortage of varieties that meet the requirements of some specific agro-ecological zones such as mountains and irrigated land, and insufficient extension and promotion of certified seed and improved varieties. The inter-professional seed organizations are poorly developed.

The National Seed Plan aims to revitalize and develop the seed sector and set up an inter-professional seed organization able to coordinate the seed industry and ensure a steady market supply of certified seed.

Table 8.4. Distribution of private seed companies in Morocco.

Location headquarters	Number of seed companies	Crops for which certified seed is produced	Number of seed companies
Casablanca	54	Food legumes	68
Rabat	11	Maize	60
Fès	8	Oilseed crops	50
Kenitra	7	Forage legumes	44
Agadir	3	Vegetables	35
El Jadida	3	Wheat and barley	9
Sidi Bennour	2	Potato	4
Berkane	1	Rice	3
Meknes	1	Sugarbeet	1
Nador	1	Forage beet	1
Beni Mellal	1	Cotton	1
Total	92		

8.1.4 Evolution of the seed industry in Morocco

The seed industry has gone through three major phases:

From Independence in 1956 to the late 1970s. The seed industry was composed of state farms and experimental stations, and private enterprises for producing, processing and marketing seed, especially for wheat and food legumes. The government

created SONACOS in 1975 to secure seed production of staple food crops. SONACOS developed a network of seed multiplication farms including SOGETA (Société de Gestion des Terres Agricoles), a state company which manages state farms recovered after independence.

Early 1980s to late 1990s. Seed laws were enacted and breeding programmes started. Private seed companies began showing more interest in importing horticultural seeds.

Early 2000s to the present. SONACOS created regional centres with modern seed-processing and storage facilities. New private seed companies including international ones showed interest in Morocco and some of them started private breeding and seed production for cereals, maize, tomato, potato and other crops. The government created the Agricultural Development Funds to encourage private investment in agriculture and to subsidize certified cereal seed. In 2007 the government made available 11,754 ha of state-owned land for five seed projects as a public–private partnership. This land was allocated to Moroccan and foreign seed enterprises with good track records of producing certified seed.

8.2 The SONACOS Seed Enterprise

8.2.1 History

SONACOS was created in 1975 and was 100% owned by the government. The headquarters are in Rabat with regional centres nationwide. To ensure sales everywhere, ten regional wholesale centres and 380 retailer shops were established across the country.

The government started SONACOS to handle seed for bread wheat, durum wheat and barley, which are the main food crops. Later the enterprise began producing seed of other crops, including potato, sugarbeet, fodders, food legumes and oil crops. SONACOS currently controls 95% of the seed market, including all of the sugarbeet seed.

For a token payment, SONACOS received rights to all the varieties developed by INRA, including mainly cereals and food legumes. After the mid-1980s, all INRA varieties were tendered on bid, but the royalties were still low. SONACOS is allowed to introduce varieties from outside Morocco if they are high yielding or have specific traits, such as disease resistance and quality.

8.2.2 Structure

Management. The company has a board which controls all activities, including finance and management. It has five departments: commercial, technical, financial and accounting, equipment and maintenance, and auditing and management control. SONACOS also has an administrative service and a central purchasing unit.

In 2007 the government instructed SONACOS to operate as a private enterprise, meaning that the company should recover all costs, including salaries. The company shed many jobs but still employs more than 220 employees.

Land and labour. SONACOS owns no land, but subcontracts outgrowers, who produce seed with machinery (e.g. tractors and seed drills) and agrochemicals.

Outgrowers are free to use any technology, as long as they respect the technical regulations for seed certification.

Quality control. Outgrowers buy their own foundation seed and produce certified seeds, with quality control by official SCSP inspectors. SONACOS only buys the final certified seed and the price is based on quality. Outgrowers know the seed price since planting and can sell to SONACOS once their seed has been certified.

Infrastructure and equipment. SONACOS has a huge storage capacity of 100,000 tonnes for cereals, a seed treatment and packing capacity of 120,000 tonnes, a cold storage facility at Larache of 5000 tonnes for seed potato, and seed treatment and packing equipment. The company also has two stations for evaluating and demonstrating new varieties.

Access to high performing varieties. SONACOS sells certified autumn and spring cereals, fodder legumes and grasses, food legumes, sugarbeets, potatoes, oilseed crops and vegetable seeds. SONACOS signed agreements with national and international plant breeding organizations to gain access to high performing plant material. SONACOS works closely with INRA and obtains varieties by paying a symbolic royalty that covers only some of the costs of breeding.

Trials of varieties registered in the national variety catalogue are conducted each year in different agro-ecological zones. These varieties are promoted at open houses, agricultural shows and field days.

Training. SONACOS trains its staff and personnel of public and private organizations on seed multiplication. It trains outgrowers on seed regulations and policies, sale of seed and farm inputs and quality control. In 2008 SONACOS began dealing in agrochemicals and selling its expertise to other organizations.



Farmers help select new varieties of broad bean, identifying the best ones for their conditions.

8.2.3 Cash flow

In 2009 SONACOS had a capital of 3 million euros (\$4 million) and a turnover of 50 million euros (\$70 million).

SONACOS has access to government-guaranteed loans and is now modernizing its storage facilities. With 95% control of the seed market, the company has little fear of competition, because private companies are uninterested in the crops covered by SONACOS.

The government is now considering opening the company shares to private investment and believes that this will improve the image of SONACOS and create fair competition in the seed sector.

8.2.4 Marketing

SONACOS supplies quality seed nationwide to farmers, projects, organizations, NGOs and government agencies. In 2009, it also provided expertise in seed marketing in Senegal.

Customers buy seed from SONACOS because of its nationwide presence and good seed of adapted, high-yielding varieties. Seed is advertised on radio and TV. Cooperatives and entrepreneurs are using similar marketing strategies in Mali (Chapter 5) and The Gambia (Chapter 7).

SONACOS is thinking of establishing value chains for some crops, starting with cereals, and including wheat growers, the seed industry, millers, flour distributors and retailers. The company believes that its most serious competition is from informal seed and not from emerging private seed companies.

8.3 Challenges and Strengths

When the International Monetary Fund (IMF) forced most other African countries to toss their seed industries into the invisible hand of the market, Morocco resisted. Thanks to government support, SONACOS has had well-functioning seed production, conditioning and marketing systems. Its 14 well-equipped regional seed centres place Morocco among Africa's leading nations in the seed industry. Thirty-four years' experience in seed is another advantage. Seed production and use is subsidized up to one-third of the seed price. Farmers use certified seed and inputs because of their low cost. If they had to pay a higher price, farming might not be profitable. But the government of Morocco is now encouraging SONACOS to recover more of its costs and become more of a parastatal corporation than a government agency. There are other African countries with long-standing parastatal seed companies, including Ethiopia, Kenya and even the ADPs of Nigeria (Section 4.3), still guided by the visible hand of public servants.

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