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Oil crops and supply chain in Africa
La filière oléagineuse en Afrique

Dossier

The global market for oilseeds: prospects and challenges for Morocco

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Abstract – The global market for oilseeds, grains, vegetable oil and oilseed meal is a complex market which is growing at a very fast pace, and which is characterized by the large volume of production which is traded between countries. Offer is geographically constrained in this market: there are few exporting countries and these are mainly situated on the American continent. Demand on the other hand is more widespread, although highest in Asiatic countries, China in particular. As a result, small importing countries, like Morocco, are in a vulnerable position, and take the full brunt of price volatility. In the 90s, Moroccan oilseed production was relatively high, unfortunately production dropped over the years, and Morocco must now buy vegetable oil and proteins on the global market. Reviving oilseed production in Morocco would considerably help the country and provide numerous benefits, such as food security, improving the country's trade balance, and enhancing the agronomic management of land thanks to the introduction of break crops. Finally, it would also boost the entire agricultural sector and help increase the income of farmers.

Keywords: Morocco / oilseed production / food security / trade balance

Résumé – Marchés mondiaux des oléagineux – Perspectives et enjeux pour le Maroc. Le marché mondial des oléagineux – graines, huiles et tourteaux – est un marché complexe, en forte croissance, caractérisé par la part très importante de la production qui est échangée entre pays. Sur ce marché l'offre est plutôt concentrée : les pays exportateurs sont relativement peu nombreux et situés majoritairement sur le continent américain. Les acheteurs sont en revanche plus dispersés, mais le poids des pays asiatiques et en particulier de la Chine est devenu largement prépondérant. Les pays importateurs pesant moins sur ce marché, comme le Maroc, subissent de plein fouet des variations de prix contre lesquelles ils ne peuvent se prémunir. Dans les années 90, le Maroc a réussi à développer une filière oléagineuse relativement conséquente, mais depuis cette filière a régressé et aujourd'hui le Maroc doit s'approvisionner sur les marchés mondiaux en huiles végétales et en protéines. Un retour de ces cultures au Maroc aurait de nombreux effets bénéfiques, tant sur la sécurité alimentaire et la balance commerciale de ce pays que sur la bonne gestion agronomique des terres grâce à l'introduction de têtes de rotation et *in fine* sur la croissance du secteur agricole et par conséquent sur le revenu des producteurs agricoles.

Mots clés : Maroc / filière oléagineuse / sécurité alimentaire / balance commerciale

1 The global market for oilseeds

The global market for oilseeds is a complex market on which both unprocessed crops and processed end products, such as vegetable oil and oilseed meal, are traded. Other types of vegetable oil, such as palm oil and olive oil, are also traded on this market.

1.1 A booming market

The annual production of oilseed crops (oilseed crops, olive oil and solid fats) worldwide is approx 440 million tons, which represents only 20% of total grain crops produced worldwide (2.3 billion tons) (Fig. 1). However, oilseed production is increasing at a much faster pace than grain production: +3.4%/year for oilseed crops versus only +2.1%/year for grains (over the same period 2000/2010).

Moreover, the global volume traded between countries is much higher for oilseed than for any other commodity.

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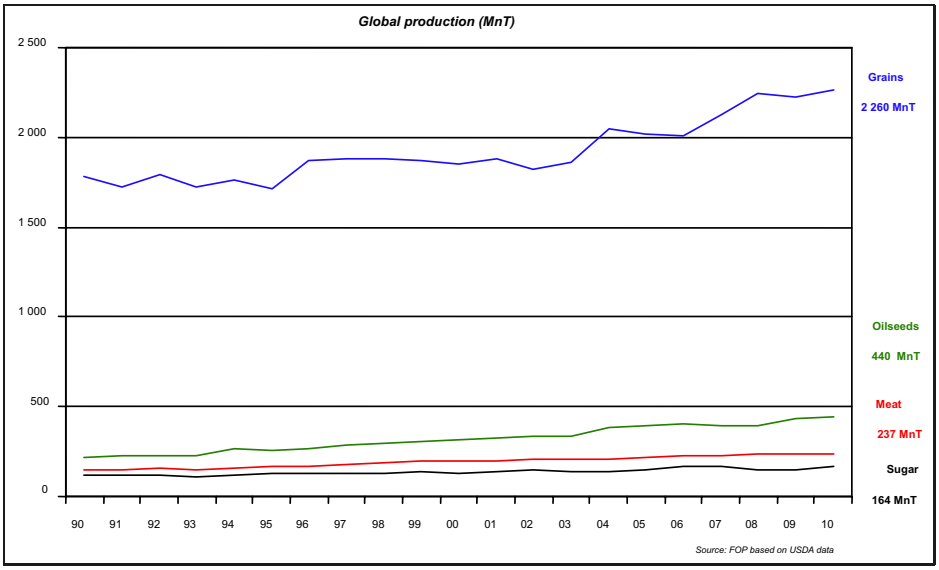

Fig. 1. Global production (in millions of tonnes, Mn T) of Grains, Oilseed (Oilseed crops, olive oil and solid fats), meat and sugar worldwide.

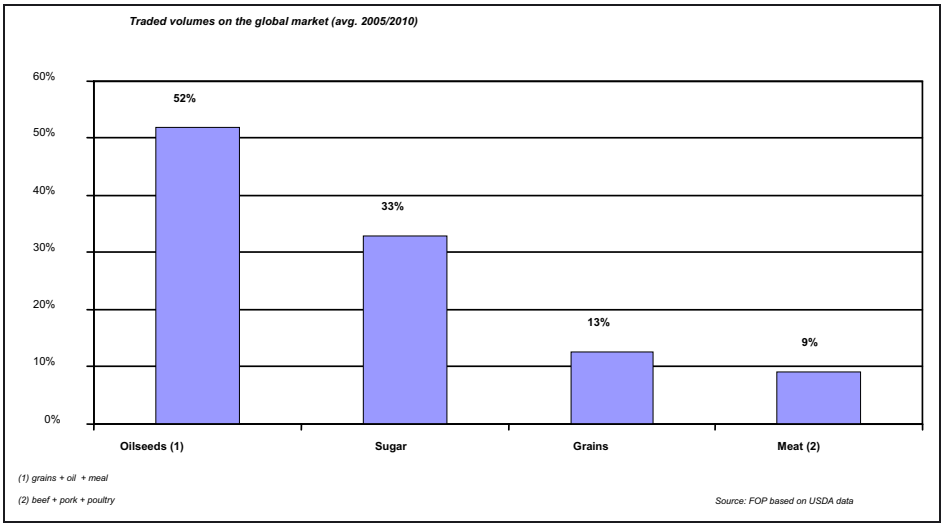

Fig. 2. Pourcentage of the total volume produced worldwide, traded on international markets (average 2005/2010).

Over 50% of the total volume of oilseed that is produced worldwide, is traded on international markets (as oilseeds, vegetable oil and oilseed meal) as opposed to only a third for sugar, and only 10% for grains and meat (Fig. 2).

Every year, 650 Mn T of agricultural commodities are traded on the global market, representing a total value of over 250 billion USD (including transactions within the EU).

In terms of value alone, oilseed crops top the market. International transactions for oilseeds have reached 100 billion USD, namely 40% of the total value of transactions (*vs*. 36% in volume).

Grains, worth 60 billion USD in transactions, now only represent a quarter of the total value of transactions (*vs*. 50% of total tonnage), and their share in the market is drying up, whereas the share of oilseeds is escalating (Fig. 3).

These figures all point to the fact that the oilseed market has become a major market worldwide, one that is contributing to the development of a new economic balance.

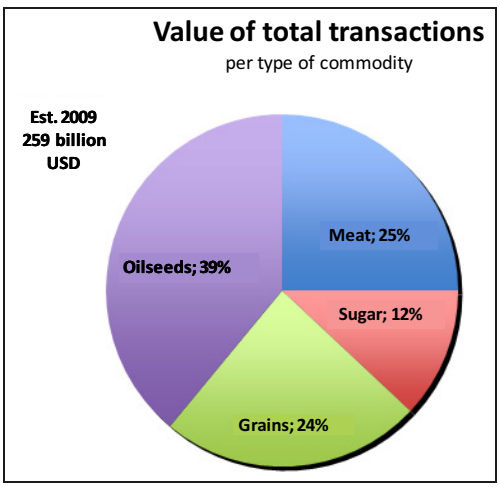

Fig. 3. Value of total transactions per type of commodity. Est 2009. Source FOP based on USDA data.

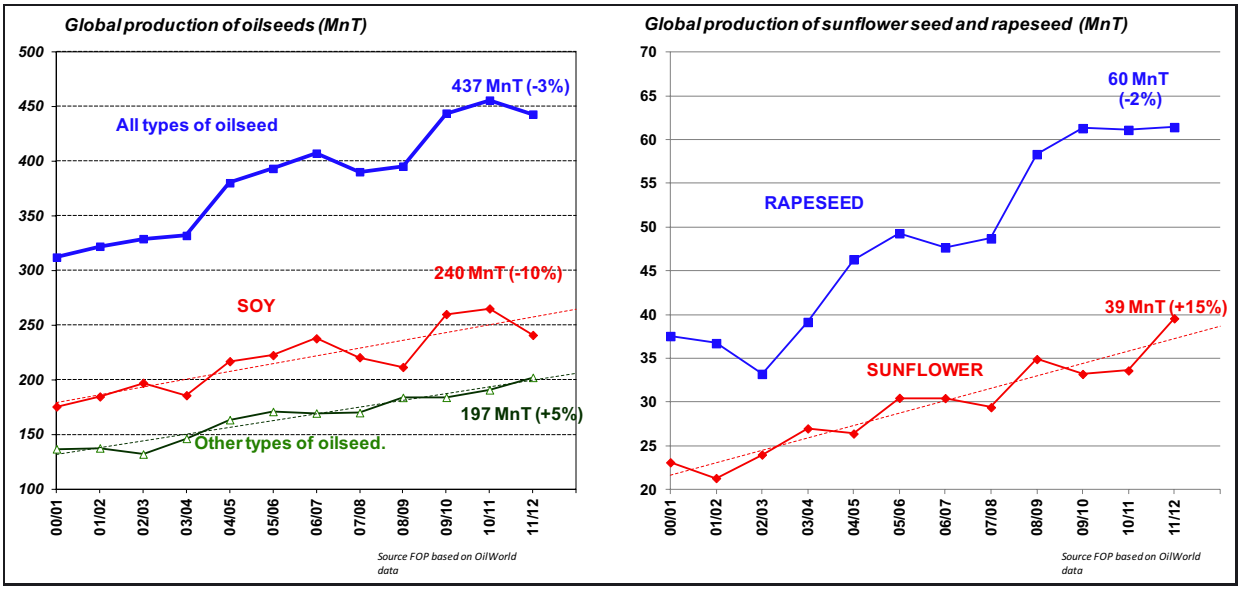

Fig. 4. Global production of oilseeds (millions of tonnes, Mn T) – left – and of sunflower seeds and rapeseeds (millions of tonnes, Mn T) – right.

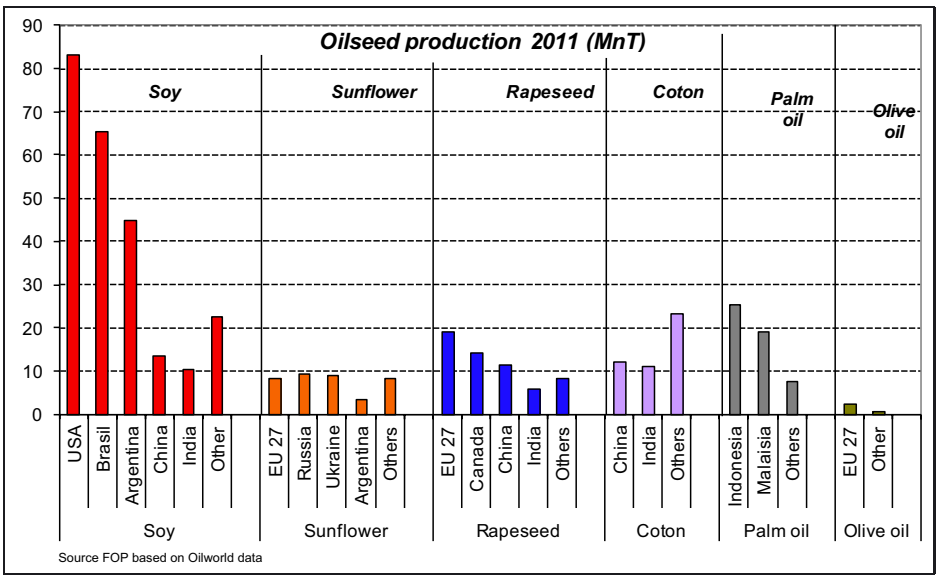

Fig. 5. Oilseed production in 2001 in million of tonnes (Mn T): the major producers of soy, sunflower seed, rapeseed, cotton, palm oil and olive oil.

1.2 A production that is geographically constrained

Global production of oilseeds has doubled in the last 20 years, and has increased 50% over the last 10 years, soaring to 437 Mn T in 2011. Soy represents 55–60% of total oilseed production, namely 240 Mn T (Fig. 4).

Oilseed production is geographically constrained. The American continent alone supplies 65% of total soy worldwide. Other types of oilseed crops are produced in much lower volumes. The EU, Canada, China and India produce 70% of the total 60 Mn T rapeseed produced worldwide, whereas 3/4 of sunflower seed produced worldwide (39 Mn T) is produced in the EU, Russia, Ukraine and Argentina.

Other oilseed producing countries include Indonesia and Malaysia, which supply 85% of the total 50 Mn T of palm oil produced every year (Fig. 5).

OIive oil, which is culturally and economically predominant in Mediterranean countries, remains marginal in terms of produced volumes (3.4 Mn T).

Worldwide oilseed production and trading are taking off as a result of the sharp rise in global demand for oil and oilseed meal.

1.3 A fast growing demand

Oilseeds are used for producing oil. This oil is mainly sold as table oil, but is also used for industrial purposes (biofuel

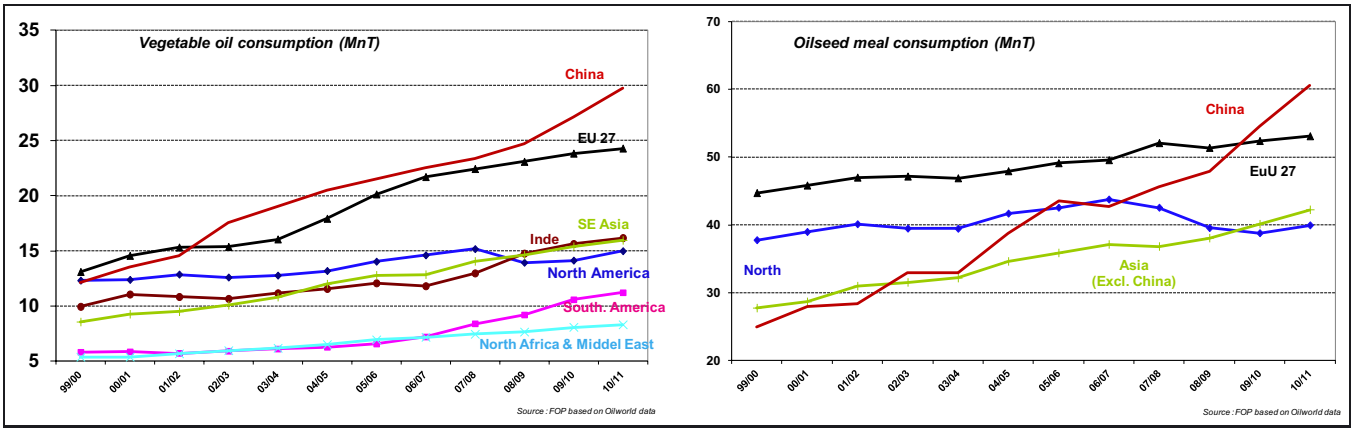

Fig. 6. Vegetable oil consumption in China, EU 27, South East Asia, India, North America, South America and North Africa and Middel Est (Millions of tonnes, Mn T) – left – and oilseed meal consumption (Millions of tonnes, Mn T) in China, EU 27, North America, Asia (except China) – right, over the 12 last years.

and oleochemistry), and its main by-product – oilseed meal – is used as animal feed.

Global consumption of vegetable oil is rising at a rate of 4 Mn T/year, and this increase is highest in Asia and South America. Total vegetable oil consumption in 2010/2011, which was 137 Mn T, is split up as follows: 30 Mn T for China, 24 Mn T for the European Union and 8 Mn T for North Africa and the Middle East (Fig. 6).

Global consumption of oilseed meal is rising at a rate of 6.7 Mn T/year. Once again, the increase is highest in Asia, whereas in North America and the European Union consumption has remained stable. Total oilseed meal consumption in 2010/2011, which was 246 Mn T, is split up as follows: 100 Mn T for Asia (of which 60 for China alone) and 53 Mn T for the European Union.

Asia (and mainly China) is the largest importer of oil and oilseed meal, and as such it determines both the trend of the market and the strategy of exporting countries, with significant repercussions for smaller importing countries such as Morocco.

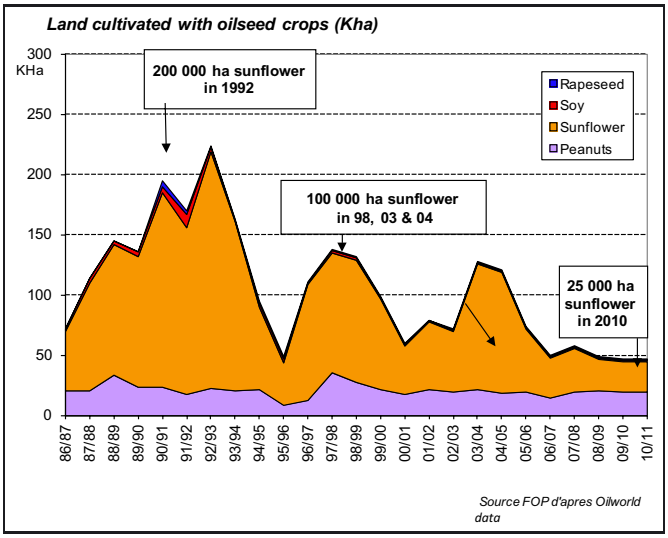

Fig. 7. Land cultivated with oilseed crops (Kha) in Morocco, over the last 25 years.

2 Oilseed crops in Morocco

2.1 Oilseed crops represent less than 1% of combinable crops in Morocco

In Morocco, total land cultivated with oilseed crops has varied in a significant way over the last 25 years.

Total land cultivated with peanuts has remained stable at approx. 20 000 ha, whereas total land cultivated with sunflower seed has decreased, down from 200 000 ha in 1992 to 25 000 today. Soy and rapeseed crops, which once took up 11 000 ha and 5 000 ha of land respectively, have virtually disappeared from the Moroccan agricultural system (Fig. 7).

This disaffection for oilseeds is the result of several factors: the globalized market, recurring droughts, a lack of technological skills and a competitive edge in grain production in a protected market, all of which have led the country to develop grain production rather than other types of crops, a strategy which helped the country progress in terms of grain self-sufficiency.

Nowadays grain crops are the most cost effective option for many farmers, and break crops have virtually been abandoned.

Of the 5.5 Mn ha of land dedicated to food crops, over 5 Mn ha are cultivated with grains, 400 000 ha with protein-rich crops (half of these being fava beans) and only 50 000 ha with oilseed crops, which are then sold on local markets, namely less than 1% of total land dedicated to combinable crops.

In 2010, total oilseed production was only 33 000 T for sunflower seed and 30 000 T for peanuts, versus 200 000 T in the early 90s (Fig. 8).

Interestingly, total vegetable oil production in Morocco is way above the 30 000 tons supplied by sunflower seed production. And this is because Morocco mainly produces olive oil, a

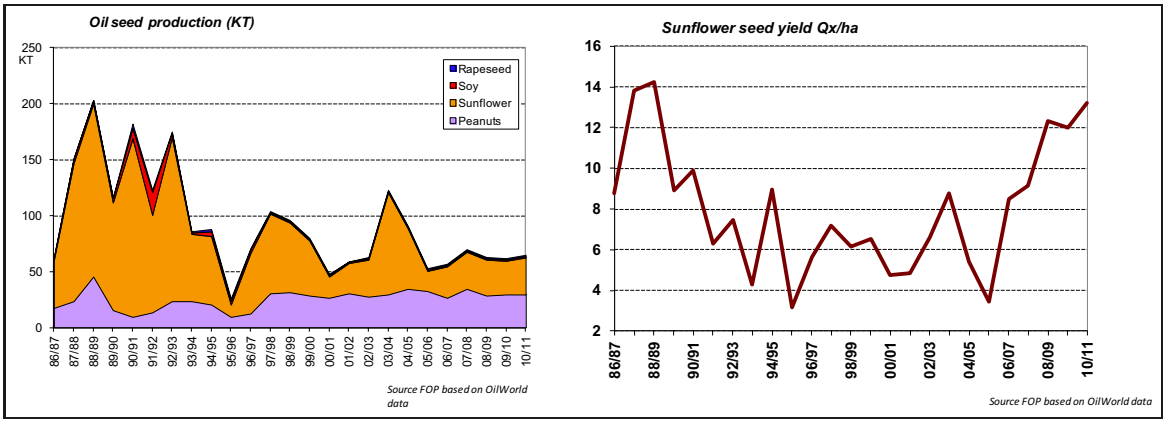

Fig. 8. Oilseed production (in KT) and Sunflower seed yield (in Qx/ha) in Morroco, over the last 25 years.

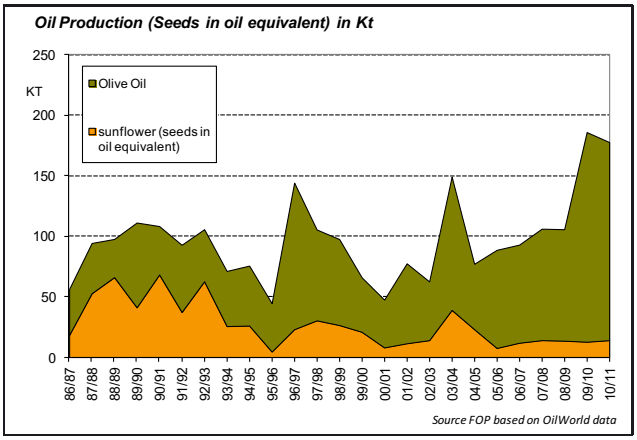

Fig. 9. Oil production (seeds in oil equivalent) in KT in Morocco, over the last 25 years.

product which has really taken off in the last few years thanks to a number of agricultural development programs (Fig. 9). Morocco now produces over 170 000 tons/year of olive oil, and this figure is expected to increase now the Green Morocco Plan has been implemented. However, a large share of this production is for export.

2.2 Changing diet habits and increased consumption

National consumption rates for vegetable oil and oilseed meal are tied to the country's demographic evolution (Growth rate for the population in Morocco is 1.2%/year, which means to say 400 000 new consumers every year) and the changing diet habits of its population. In Morocco, figures for grain and sugar consumption per capita are much higher than the world average (Morocco: 254 Kg grains/capita/year and 40 Kg sugar – World average: 147 Kg grains and 24 Kg sugar) (Fig. 10). Vegetable oil consumption is within average (12 kg/capita/year). As for meat consumption, it is below average (Morocco: 25 kg – World average: 40 kg)[1].

[1] FAO data for 2007 (latest available data). Data only includes figures for human consumption, figures for animal consumption and non-food uses are not included.

What is important is to look beyond this simple snapshot of current diet habits, and watch out for the changes that have occurred. Analysis of surveys carried out in 2000 and 2007 show a rise in grain, vegetable oil and meat consumption per capita, a change which reflects the country's growing standard of living. Similar changes in diet habits have been observed across borders, in Algeria and Tunisia. In other countries, this change is even more significant. For instance in China, as meat and vegetable oil consumption go on rising, grain consumption is steadily decreasing, a trend which might soon be observed in Morocco (Fig. 11).

This new demand as well as the country's growing demography, have triggered an increase in domestic oilseed consumption (Fig. 12). Vegetable oil consumption in Morocco has doubled in the last 20 years, soaring to 600 000 tons, a figure that is three times higher than what is produced on the domestic market (olive oil included). The consumption of soybean oil – which is 100% imported – has risen sharply at the expense of other types of oils, for instance rapeseed oil. To a lesser extent, the consumption of palm oil – which is also imported – has also risen sharply.

2.3 Oilseed meal consumption has risen even faster than vegetable oil consumption

Meat demand is rising, and public authorities prefer to boost national production rather than import larger quantities of meat. In parallel to this, livestock farming is being rationalized and modernized, and is therefore becoming more efficient. As a result, oilseed meal consumption has increased tenfold over the last 20 years. In Morocco, oilseed meal consumption has soared to 900 000 tons, of which 600 000 tons of soy, and 200 000 tons of sunflower seed (Fig. 13).

In order to fulfil this demand, the country relies entirely on soy imported from the USA, as provisioned by the free trade agreement signed between Morocco and the United States. As a consequence of its deficient oilseed production and the sharp rise in demand for vegetable oil and protein, Morocco is now dependent on imported vegetable oil and protein-rich crops.

Moroccan oilseed production only covers 30% of the country's needs in vegetable oil (olive oil included) versus 40% at the end of the 1980s (Fig. 14).

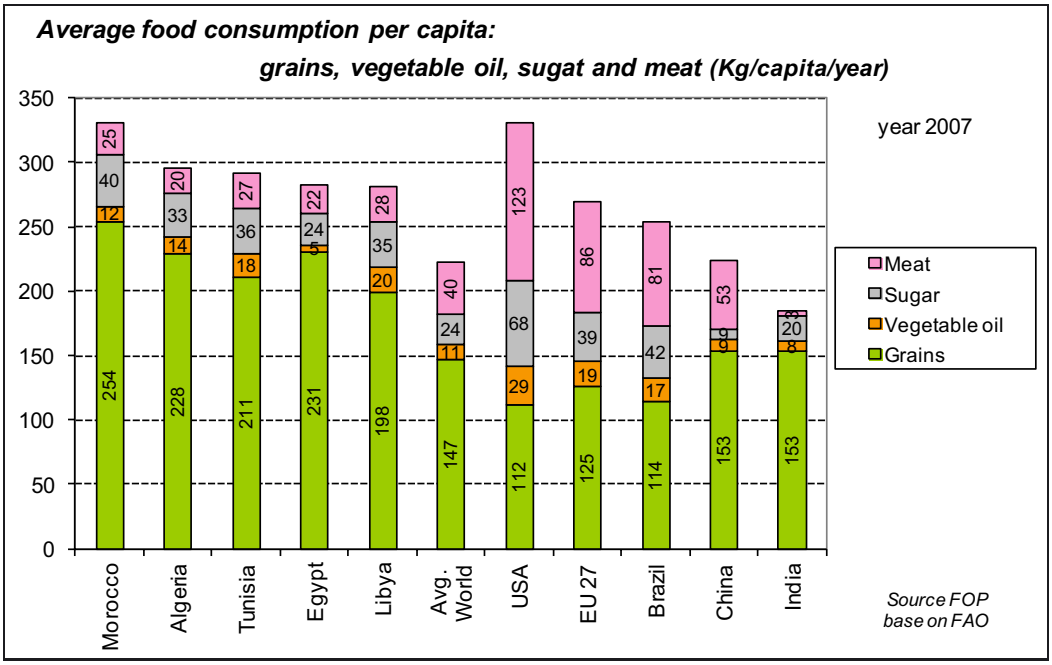

Fig. 10. Average food consumption per capita in grains, vegetable oil, sugar and meat (Kg/capita/year) in in Morocco, Algeria, Tunisia, Egypt, Average world, USA, UE 27, Brazil, China, India.

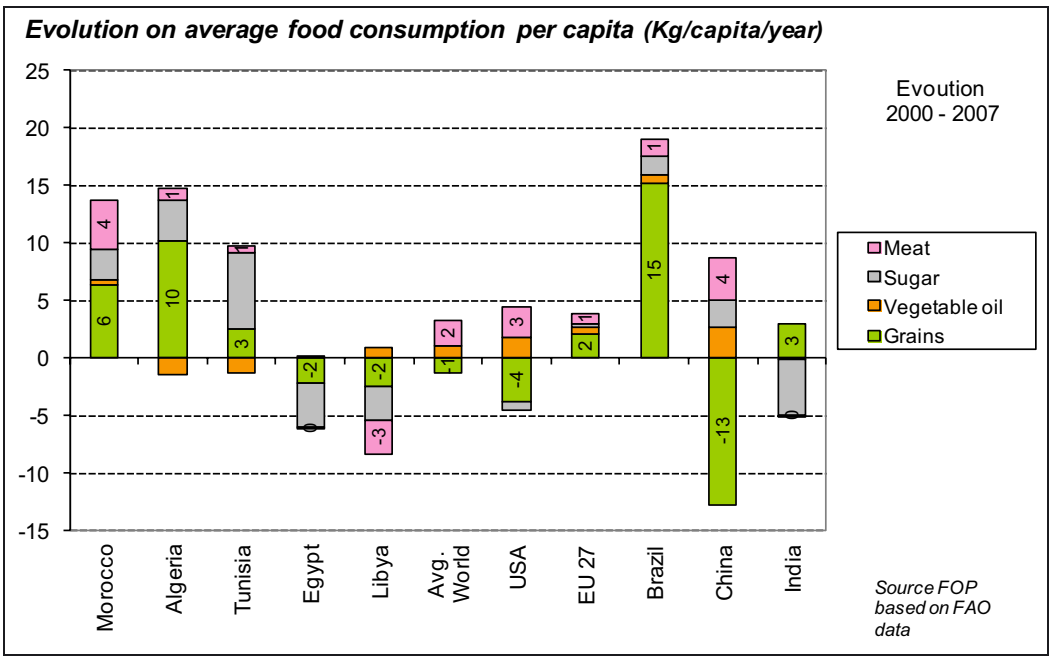

Fig. 11. Evolution in average consumtion per capita (Kg/capita/year) in Morocco, Algeria, Tunisia, Egypt, Average world, USA, UE 27, Brazil, China, India.

Self-sufficiency in protein-rich crops has spiraled down from 70% in the 80s to 5% today (Fig. 15). As a result, livestock farmers are dependent on US-imported soy meal.

2.4 Morocco is dependent on the global market

Morocco has become dependent on imported oil and oilseed meal, and this dependence could lead to problems in terms of supply security and food security. Moreover, the country is exposed to price volatility on the global market, for instance over the last few years, the price of vegetable oil has increased threefold, while that of oilseed meal has increased twofold (Fig. 16). This is all the more problematic since Morocco is a very small importing country, compared to larger importing countries like the EU and China. With over 57 Mn T/year imported soy, China is the largest soy

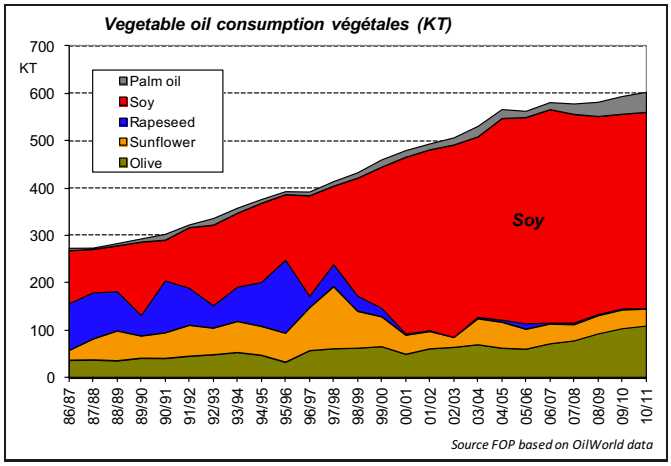

Fig. 12. Vegetable oil consumption (KT) in Morocco over the last 25 years.

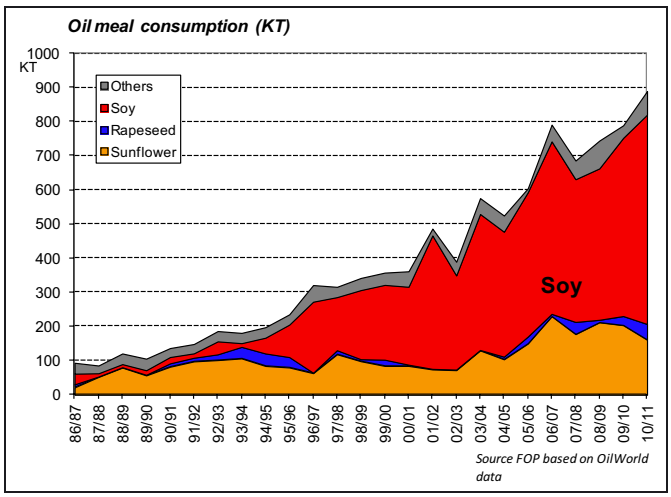

Fig. 13. Oilseed meal consumption (KT) in Morocco over the last 25 years.

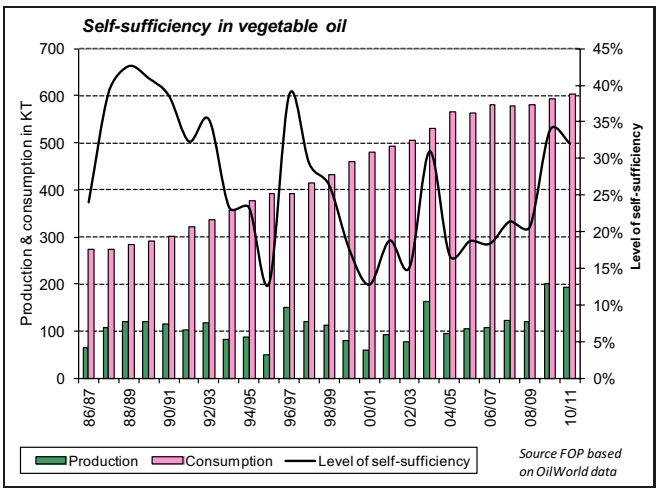

Fig. 14. Evolution of self-sufficiency in vegetable oil in Morocco over the last 25 years.

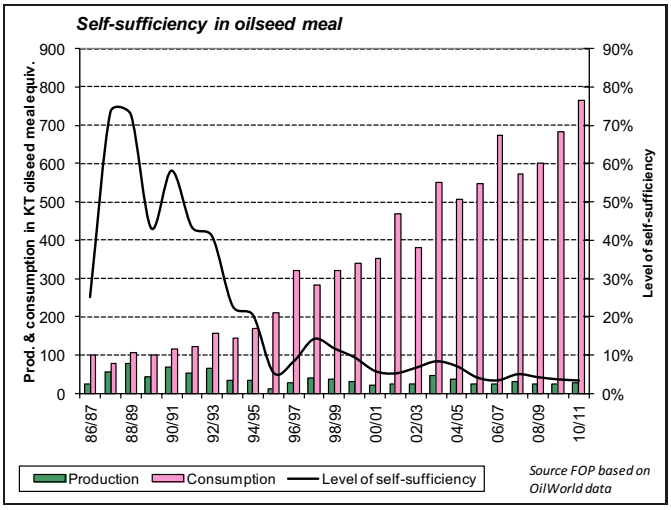

Fig. 15. Evolution of self-sufficiency in oilseed meal in Morocco over the last 25 years.

importing country worldwide, a giant compared to Morocco, which only imports a million tons/year, and 85% of this imported soy comes from the USA.

2.5 Prospects for developing oilseed crops in Morocco

Morocco's dependence on the global market for its oilseed supply could be reduced if oilseed crops were developed.

By 2020, with over 200 to 300 000 ha land cultivated with oilseed crops (sunflower seed and rapeseed) and by developing olive oil production, Morocco would be in a position to meet 15 to 25% of its needs in protein-rich crops, and 40 to 60% of its needs in vegetable oil (olive oil included), and this even as demand goes on rising in the future.

Positive effects of boosting the domestic production of oilseed crops include:

- food security,
- reduced costs tied to imported oilseed, improved trade balance, lower volume of transactions in foreign currencies,
- development opportunities for livestock farmers in Morocco,
- reduced impact of price volatility on the global market,
- agronomic benefits: integration of break crops in rotations,
- economic benefits for producers, calculated on the entire rotation,
- creation of jobs in the agricultural sector and the oil processing industry.

For these objectives to be achieved, public instances and representatives of the sector recently signed an extensive support program that aims to create favourable conditions for a development of oilseed crops. This support program has convinced key players to join forces in a national project leaded by an industrial that act as an aggregator.

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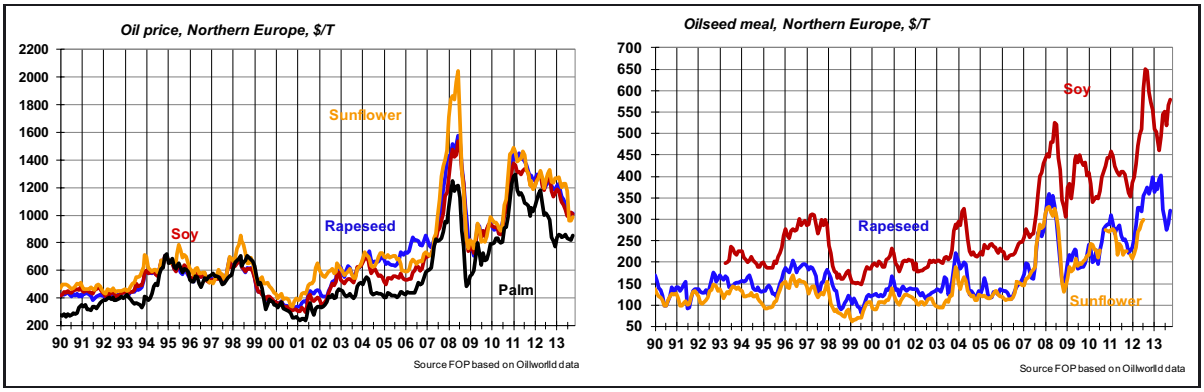

Fig. 16. Evolution of self-sufficiency in oilseed meal in Morocco over the last 25 years.

and protein industry, and steered it into diversifying and creating new markets for oilseed and protein crops. The industry is now present on the market for table oil (Lesieur), biofuels (Diester Industrie), animal feed (Glon Sanders) and lipochemistry (Novance Oleon). The industry is also present on the international market, mainly in Morocco, where it recently acquired Lesieur Cristal, and where Agropol, its co-operation agency, is actively working in collaboration with research centres and farmers, in order to revive local production of oilseed and protein crops.

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