

# Development of Organic Agriculture in Saudi Arabia

## Summary

In 2005 the Saudi Ministry of Agriculture (MoA) commissioned International Services of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to support the development of organic agriculture within the Kingdom of Saudi Arabia. The overall mission of the Organic Farming Project (OFP) was to establish a functioning and **sustainable organic agriculture sector** in Saudi Arabia, boost the organic market, support sector stakeholders (Fig1) and raise awareness of organic food among consumers. Within a mere seven years, the project has turned organic agriculture in Saudi Arabia into a success story. The MoA aims to fulfil several different objectives contributing to sustainable and sound sector development. These include mainly (a) support for small scale farmers by creating alternative and profitable income opportunities (organic agriculture); (b) production of healthy food; (c) conservation of natural resources and (d) contribution to the improvement of irrigation water efficiency. The latter two elements contribute to **climate change adaptation** in Saudi Arabia.

## Challenge

At the beginning of this millennium, it became clear that intensive agricultural production practices for staple food production, namely wheat, could only be maintained with high consumption of production inputs and **at the expense of fossil water** (Fig. 2). The continuation of these practices would cause a serious drain on Saudi Arabia's water resources, which are drawn mainly from non-renewable aquifers. In the context of Saudi Arabia's accession to the World Trade Organization, the government committed to phase out irrigated wheat production by 2016. Saudi Arabia is

now focusing on and promoting the sustainable production of higher economic value crops, such as fruits and vegetables, for the domestic market. An important component of this strategy was the promotion of **modern water-saving technologies**, particularly drip irrigation. Organic agriculture can be regarded as an interesting approach to the careful, **more sustainable management of the natural resources**, particularly of the scarce resource water. For this reason it serves as an element of **climate change adaptation**.

## Setup

The implementation of the OFP is a joint effort between the Ministry of Agriculture and GIZ International Services. The first phase was dedicated to the establishment of organic **pilot farms** and the development of technical know-how. The pilot farmers were intensively trained in all relevant topics, including soil, plant and animal production, irrigation water management, and marketing (Figs. 3 and 4). From 2007 onwards, the project's focus was on the creation of support services and governmental structures to expand organic production and sustain the further development of this sector.

In 2007 GIZ International Services supported the founding of the **Saudi Organic Farming Association** in order to strengthen the private sector's involvement in the organic sector. The establishment of the Department of Organic Agriculture (DOA) within the Ministry of Agriculture was initiated by the OFP one year later (2008). As the competent authority, the DOA is responsible for the monitoring and surveillance of the entire organic sector. In 2011 the first organic farms were certified in accordance with



Fig. 1 (l): Saudi Organic Consumer Logo

Fig. 2 (r): Pivot irrigation circles for wheat production in the Saudi Arabian desert using fossil water



Fig. 3 (l): GIZ Plant Nutrition Workshop

Fig. 4 (r): Pilot farmer showing his cucumbers in a greenhouse

the former Saudi Arabia's initial national organic regulation and standards. Three years later (2014) Saudi Arabia introduced an organic agriculture law for the first time. In 2015 the law was supplemented by an organic agriculture bylaw replacing the previous regulation and standards.

## Opportunities

More than 120 Saudi organic farms were certified by mid-2015, and new farmers are continually converting their production systems to organic farming. These farms are located all over Saudi Arabia, representing the core agricultural production areas such as the Qassim, Kharj, Al-Jouf and Eastern Provinces. Organic producers can be found in particular around Jeddah, Riyadh and Dammam, where **demand is highest**.

### Benefits of Organic Agriculture

Benefits to 'organic farmers'	Benefits to consumers	Benefits to the public
Enhanced yields as a result of long-term soil fertility improvements	Guaranteed pesticide-free foods	Decreased soil and water pollution
Cost savings due to reduced input use	Guaranteed genetically modified organism (GMO)-free foods	Enhancement of biodiversity
Preservation and improvement of animal health	Certified, high-quality products	Contribution to water saving
Increase of water retention in the soil	Reduction of health risks	Securing of water quality
Increase and preservation of agrobiodiversity		Reduction of health risks for producers and consumers

The success is based on the implementation of numerous measures, including awareness-raising among farmers and the public, training and monitoring of organic production, adapted research, marketing, certification, and legislation and policy development. Here are some examples:

1. Numerous **workshops and training** courses in relevant fields in organic agriculture have been provided not only to pilot farmers and organic farmers, but also to conventional farmers who are interested in learning about organic agriculture for the first time. In addition, the extension officers in the 13 regional directorates provided information and training on all relevant aspects of organic farming via workshops and participation in conferences.
2. The **Organic Farming Research and Development Center** in Qassim was designated to serve as a national platform for applied research as well as a 'learning centre' for all stakeholders in the organic agriculture sector (Fig. 5). Its main fields are (a) plant nutrition and fertilisation management; (b) compost management; (c) sustainable water management; (d) plant protection, biological control and disease prevention; and (e) agriculture extension.
3. A comprehensive **organic market development programme** has been set up over recent years. The programme includes the establishment of platforms that bring together stakeholders from the public as well as the private organic sector. Regional marketing working groups have been introduced in Jeddah, Riyadh and Dammam (Fig. 6). In 2014, as initiated by the OFP and under the patronage of the Ministry of Agriculture, the two biggest Saudi supermarket chains partnered up with organic farmers in order to promote domestic organic products in a nationwide public awareness campaign.



Fig. 5 (l): Nursery in the Organic Farming Research and Development Center

Fig. 6 (r): Informing visitors at an agricultural exhibition on organic farming



Fig. 7: Organic tomato production in a greenhouse

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4. The **Saudi Organic Agriculture Law**, permitting relevant competent authorities to penalise abuses resulting from infringements of the Saudi Organic Agriculture Bylaw, was approved in 2014. A national organic action plan (NOAP) was developed based on an organic agriculture policy concept. The NOAP

defines concrete measures for achieving the objectives of the organic agricultural policy and is currently being assessed and reviewed by the competent authority. Saudi Arabia is the first country within the Gulf and Middle East and North Africa region that developed a national organic agriculture support policy.

## Outlook

**Lessons learned:** The active promotion and countrywide dissemination of organic agriculture provides a sound and promising basis for the country's further development. This growing demand for organic food in Saudi Arabia will contribute to a more efficient use of natural resources, particularly of good quality water. The use of water-saving irrigation methods and the production in greenhouses reinforces the climate change adaptation capacity (Fig. 7).

**Transferability:** Transferring the successful Saudi Arabian example (in its full dimension) requires a functioning institutional framework, a solid governmental organic support policy and especially an existing demand potential. However, small-scale organic farming is feasible even without any state support; a precondition for market production is the availability of a financially strong segment of society that is ready to pay more for healthy food.

For decision makers, this project can serve as an outstanding example of how a new segment of the economy can be implemented, including its legal, economic, managerial, awareness-raising, technical and research aspects.

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