

Executive Summary

International Markets

Water for horticulture in Mexico



For individual support on doing business in Mexico, specific questions about market opportunities and to receive full report, please contact r.neijland@nwp.nl.

Business support is free of charge.



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Introduction

INNOWATER is a public private innovation partnership of innovation agencies, water associations, technology specialists, innovation experts and eco-innovative cluster organisations from Belgium, Cyprus, Denmark, the Netherlands, Spain and the UK, coordinated by the European Water Partnership. INNOWATER is supported by the EC Europe Innova Programme.

The overall objective of INNOWATER is to establish and implement a water innovation partnership that develops and tests new and better support tools and delivery mechanisms for innovative SMEs and first-user industries. A key objective of the project has been to develop a portfolio of tools to assist SMEs in the development of appropriate business models which support growth into international markets¹.

A new model was developed for gathering international market intelligence that is relevant to, and easily accessible by, European SMEs. It uses a small team of independent third party experts to build on existing and available market intelligence to undertake specific in country fact finding missions on behalf of the SMEs, with subsequent feedback and business planning support provided by way of follow up.

The International Business Trip to Mexico was undertaken in April 2013 to identify and understand opportunities for European SMEs to participate in providing solutions in the horticultural sector in Mexico.

The main objectives of the trip were to:

- Identify specific innovation needs for which there is a benefit to Mexico in sourcing solutions from international suppliers;
- Identify opportunities that can realistically be met by European SMEs (alone or in consortia);
- Understand the drivers and barriers to the uptake of new technologies in this market;
- Map practical next steps for establishing communication between innovators and end users.

Background to the Horticultural Sector in Mexico

The major sectors in Mexican horticulture are:

- (1) Cut and ornamental flowers, where the production goes mainly to the domestic market
- (2) Vegetables, where the production aims at both the domestic and the international markets.

The average size of the protected horticulture exploitations is divers, with 86% being smaller than 0.5 ha, 11.5% lies between 0.51 ha and 5.0 ha and 2.5% in areas with more than 5.0 ha². It is estimated that the activity is growing around 1.200 ha per year. This type of production increased from approximately 750 ha in 1999 to 15.000 ha in 2010.

The Mexican horticultural sector is strongly developing in a global setting. The main horticultural production is concentrated in 5 Mexican states: Sinaloa, Baja California, Baja California Sur, Jalisco and Mexico. Within the framework of INNOWATER, the regions of Sinaloa and Queretaro were selected to explore the opportunities in the Mexican Horticulture sector more in-depth. From all of the states in Mexico dedicated to the agriculture, and especially those practising protected horticulture, Sinaloa is the one with the strongest growth and production. In the Queretaro region, the areas that are dedicated to protected horticulture are relatively low. However, the level of technology is high.

Irrigated agriculture in Mexico is extremely important both in terms of irrigated acreage and total water use. Protected horticulture has increased rapidly in the last 20 years in Mexico because there has been demand side requirements for lower cost, high quality produce to serve the North American market in particular.

Although there is no structural water shortage in the regions that were visited, concerns were raised by consultees about the availability of water in the future. For example a drought recently occurred in

¹ See www.innowater.eu for detailed information on all support tools produced by the Innowater project.

² Source: Ponce and SAGARPA, 2011

Sinaloa state which had a profound effect on seasonal water supplies for the protected horticulture sector. This gives a rationale to think about more efficient water usage for the future. Although there is a significant variation across Mexico in the nature of water supplies for protected horticulture, general challenges are:

- High consumption of water caused by over irrigation and outdated, inefficient irrigation systems often using groundwater from aquifers;
- Over abstraction of the aquifers causing environmental damage, increasing costs of pumping and decreasing water quality;
- The decrease of the availability of water together with the increasing salinization of the soils;
- High energy costs for using water technologies (for example pumps and water treatment plants) within the production chain.

In general, the implementation of innovative water technologies in the protected horticulture sector in Mexico has been low, and confined mainly to producers serving export markets.. Water abstraction tariffs account for a relatively small proportion of business overheads. In turn, this reduces market drivers for adopting innovative water technologies. However, the number of businesses that are interested in how water technology innovations can benefit them is increasing. For example, water technologies are being implemented with reasons other than to merely promote water-efficiency or water re-use; some enterprises are adopting innovative water technologies as a business differentiator.

To better understand the availability of innovations in the market place, Mexican growers already have access to European technology suppliers. They are also profiting from an emerging domestic supply chain which is partnering with international companies. Although it might be a challenge to enter the market, innovative technologies that have proven benefits for companies in Europe do have clear potential in the Mexican Market.

Drivers and Barriers of Innovation

Key drivers for the implementation of innovative solutions in the Horticultural sector in Mexico are:

- Climatic conditions; geographical location of production - the great variation in climate condition requires different types of technology to maintain durable agricultural production.
- International demands from (export) markets – standards for product quality, food safety and sustainability require more advanced technologies for horticulture production
- Return on investment; the implementation of new technologies is driven principally in areas other than reducing water consumption, for example:
 - Decreasing electricity costs of water technologies
 - Recovering nutrients
 - Product differentiation
 - Increasing the production/yield per m²

However, there are also significant barriers to the uptake of new technologies:

- A weak regulatory and policy framework for water resources, that lead to no- or low costs for water usage;
- The investment capacity to attract advanced technology;
- The gradual shift towards vertical integration makes market penetration challenging for European SMEs;
- The high level of international competition in the Mexican horticultural sector.

Potential Opportunities for European SMEs

- Institutional capacity building and policy development based on empirical knowledge;
- Better programming and forecasting of water demand timelines throughout the growing season;
- Low-tech technologies that have high impact for large amount of growers.

In addition to these, **two tangible and current opportunities** have been identified where end-users are actively seeking new solutions. These relate to:

- Technologies that reduce *Na* concentration of irrigation/drain water in Queretaro state;
- Energy efficiency innovations that relate to groundwater abstraction, transportation and treatment.

Key Stakeholders

Principal stakeholders involved in the Mexican Horticulture market are:

- AMHPAC: the Mexican Association for Protected Horticulture
- CAADES: the Association for Protected Horticulture in Sinaloa
- CEICKOR: a research and training centre functioning with private investment
- COFUPRO: an institution that represents and coordinates the Produce Foundations in Mexico
- Autonomous University of Chapingo: a potential partner for testing technologies under local conditions

Potential Routes to Market

There are a number of ways by which SMEs may interact with the market but options include:

- Focusing on horticultural clients that are:
 - Internationally oriented and serve foreign customers;
 - Of significant size and capable of allocating financial means;
 - Producing in climatically less favorable locations in Mexico.
- Providing financial resources for technology proof of concept programmes and innovation clusters
- Offering water technologies that provide assets for the grower to differentiate from competitors as responsible producers;
- Moving towards expanding production within a resource-constrained environment.

Market development will require investment in time on the ground in Mexico, developing durable relationships and gaining additional market intelligence. It is apparent that opportunities to enter the Mexican market remotely from Europe are very limited.

Critical Success Factors

Both technological and non-technological attributes will be important for SMEs that are entering the market. In addition to being cost competitive, valued characteristics include:

- Adapt business approach and technology to the Mexican context by establishing local presence;
- Provide proven technologies that are adjusted to specific geographical and climatic conditions in Mexico;
- Avoid focusing merely on technology push (getting EU technology into the market), but enable market pull (develop for the market itself).

Concluding Comments

The horticultural sector in Mexico was chosen as a potentially interesting one because (especially protected) horticulture is emerging, and climate change challenges are starting to raise awareness about water availability, now and in the future.

Although water is relatively cheap, or even free, there are a number of drivers for innovation that provide opportunities for European SMEs to enter the market. It is important to bear in mind that there are also barriers to addressing this market and that technologies need to be proven in the geographical conditions in order to be commercially successful.

Depending on the technology level of provided innovations, the primary 'buyers' of technology are likely to be greenhouses (high-tech) or medium to large size farmers with access to working capital.

If companies are able to demonstrate solutions that are clearly adapted to Mexican requirements and that have a relatively short return on investment period, then market opportunities do exist.