Sowing Seeds for Global Innovation

HORTEX Vietnam, February 2020

Yaniv Tessel, Head of Economic and Trade Mission
Embassy of Israel
Feeding 9 Bil. People by 2050

- Climate Change
- Water Scarcity
- Food Loss
- Limited Farmland
- Labor Force
- Protein Demand
### Israel - Overview

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>22,000 Km²</td>
</tr>
<tr>
<td>Water area</td>
<td>2.1%</td>
</tr>
<tr>
<td>Population</td>
<td>~ 8.7 million</td>
</tr>
<tr>
<td>Water demand</td>
<td>2,000 MCM/year</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>40,270 $</td>
</tr>
<tr>
<td>Annual GDP growth</td>
<td>3.3%</td>
</tr>
<tr>
<td>Israel export</td>
<td>~104.1 B$</td>
</tr>
<tr>
<td>Israel Agro-Technology export</td>
<td>~9.2 B$</td>
</tr>
</tbody>
</table>

#### Rainfall

<table>
<thead>
<tr>
<th>Rainfall Annually (mm)</th>
</tr>
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<tbody>
<tr>
<td>Haifa</td>
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<tr>
<td>Tel-Aviv</td>
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<tr>
<td>Jerusalem</td>
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<tr>
<td>Be'er Sheva</td>
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</tbody>
</table>

#### Map of Israel

- **Haifa**
- **Tel-Aviv**
- **Jerusalem**
- **Be'er Sheva**
Israel’s Ag-Tech - Main Challenges

- Shortage of Natural Water resources
- Scarcity of Precipitation
- 2/3 of Israel’s land is defined as Semi-arid or arid
- Shortage of “on farm labor”
- Complex geographical environment
- Distance from export & import markets
Drip irrigation

Post harvest lost

Grain post harvest lost

20%

0.5%

Greenhouse technology

Reuse treated water

Improved inputs

300 tons/hectare

Israeli average

50 tons/hectare

World average

Annual average milk production per cow (Liters)

Russia 3,900
Argentina 5,300
Australia 5,600
European Union 6,500
United States 10,000
Israel 11,000

Drip irrigation

Reuse of Treated Sewage for Irrigation

Spain 10% 0%
China 11% 0%
USA 14% 0%
Australia 14% 0%
Singapore 10% 0%
Israel 80% 0%

35% 15% 0% 0%
Israel’s Advantages

- High levels of investment in R&D
- "Kibbutz"- Communal model
- Entrepreneur culture
- Developed ecosystem: Researchers, Industry, Farmers- close cooperation & interaction
Truly Unique Eco-System

R&D

Growers

Extension Services

Agro-Industry
Yield increase: Output of Technology Use

Added value
Technological level
Agri investment
Agri employment

Source: Statistical Atlas - Israeli agriculture 2013
Agro-Technology Companies in Israel

Figure 1: Agritech sector growth (2013–2017)

Source: SNC central Agritech report 2017
Israeli Agritech Innovation
Smart Farming

- IoT systems
- Machine – learning algorithms
- Big – data analytics

Many of the solutions can be installed on location and at work within minutes

Ministry of Economy and Industry
Foreign Trade Administration
Israeli Agritech Innovation

Agribiotechnology

• Plant breeding or genetics, modifying traditional breeding methods and deriving new generic analysis

• Gene discovery, analytics, selection and editing

• Biological inputs and treatments
Israeli Agritech Innovation

Food Safety & Traceability

- Food-production tracking
- Quality monitoring
- Contaminant detection
- Sterilization
- Post-harvest packaging and storage
In 2018 alone, More than 400 startups
Over 143M$ capital raised
• Agro-Technology Scouting Services

• Organizing Professional trips to Israel for Individuals and Companies in the Agri-Business
Xin Cảm ơ n bạ n

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