



NDFC

**Education & Training
Subcommittee**

Agriculture Focused Training Centers

Investment Opportunity – TVET

April 2022



Agriculture Training Centers

OPPORTUNITY DESCRIPTION: Invest in KSA's education sector by establishing high-quality, Agriculture focused TVET centers

OPPORTUNITY OVERVIEW

Current Landscape

Key Stats

- ~SAR 68B** Agriculture sector contribution to GDP
- ~325K** Number of workers engaged in Agriculture

Benefits

- Food Security
- Economic Growth
- Increased Rural Employment
- Sustainable development

Govt. Support

- Free seeds and fertilizers
- Subsidized water, fuel and electricity
- Free Land
- Soft/Interest-free Loans

Key Challenges

Production Shortfall

Domestic Food Production and Consumption, KSA (2014-19); Million Metric Tonnes

Year	Consumption (MMT)	Production (MMT)	Shortfall (MMT)
2015	29.8	8.9	
2016	29.4	8.5	
2017	29.4	8.5	20.9
2018	24.3	8.8	
2019	24.3	8.8	15.5

Geographic Factors

- Loose Soil
- Low Rainfall
- No perennial river or permanent water bodies
- Depleted underground water

Lack of training

- 4** Dedicated public agriculture training centers in KSA
- 35%** Agriculture Expansion from formal sources

Sector Outlook

Agricultural Employment Forecast

Agriculture Employment Forecast, KSA (2015-30F); 000s of employed personnel

Year	Employment (000s)
2018	~332
2019	~326
30F	~382

Modern farming to support production

- Satellite and Thermal Imaging of Cropland
- Rainwater Harvesting
- Drip Irrigation
- Hydroponics
- Seawater Green Houses
- Bio salinity research



Agriculture Training Centers

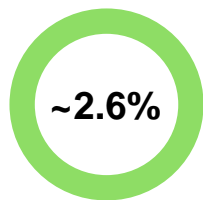
OPPORTUNITY DESCRIPTION: Invest in KSA's education sector by establishing high-quality, Agriculture focused TVET centers

KSA AGRICULTURE SECTOR OVERVIEW

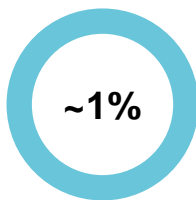
Overview of Agriculture Sector in KSA



Agriculture sector contribution to GDP



Agriculture as a percentage of Saudi GDP



Growth in Agriculture sector



Self-sufficiency ratio in food supply



Number of workers engaged in Agriculture

Benefits of expansion of agriculture sector in KSA



Food Security

Optimum utilization of scarce resources leads increase in agricultural output and supports food security in the Kingdom



Increased Rural Employment

Expansion of agricultural activities can help increase employment opportunities in rural areas



Economic Growth

Expansion of agriculture sector can help the Kingdom diversify its economy while contributing to economic growth



Sustainable development

Development of the agriculture sector can ensure a sustainable future for the coming generations, in line with the objectives of the Vision 2030

Government support for agriculture in KSA



Free seeds and fertilizers



R&D in Agriculture Technology



Free Land



Soft/Interest-free Loans



Subsidized water, fuel and electricity



Duty free imports of raw materials and machinery



Drainage and irrigation network



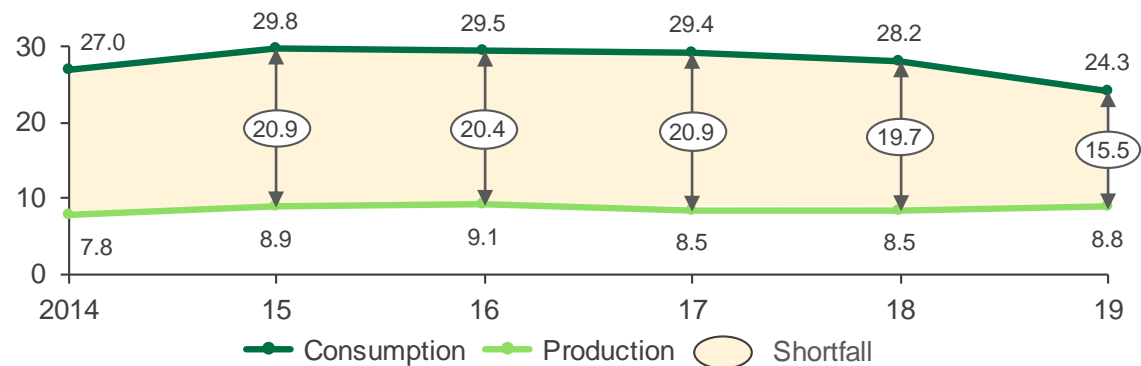
Agriculture Training Centers

OPPORTUNITY DESCRIPTION: Invest in KSA's education sector by establishing high-quality, Agriculture focused TVET centers

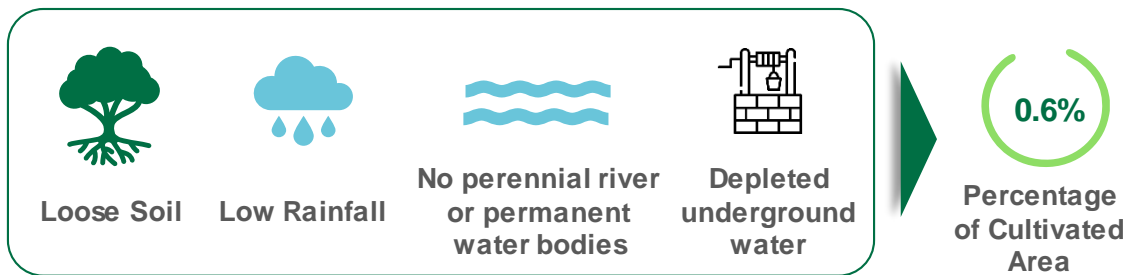
CHALLENGES FACED BY THE AGRICULTURAL SECTOR IN KSA

1 Low domestic food production

Domestic Food Production and Consumption, KSA (2014-19); Million Metric Tonnes

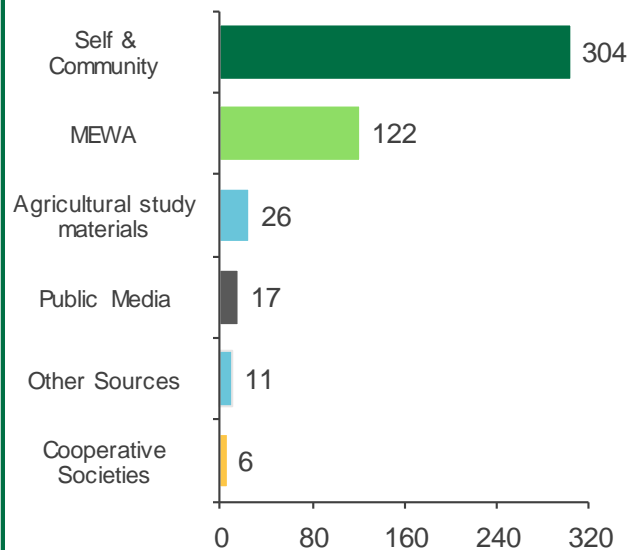


2 Unsuitable geographic make-up / climatic conditions for agriculture in KSA

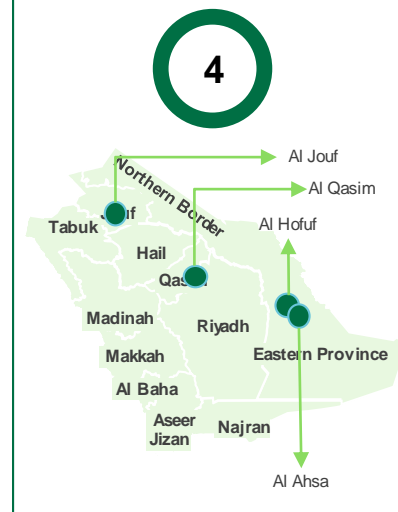


3 Lack of formal agriculture knowledge transfer (extension) programs

No. of Agricultural Holdings, by sources of Agricultural Extension (Knowledge), KSA (2015); Thousands



Dedicated public agriculture training centers in KSA



Licensing entity: Technical and Vocational Training Corporation



The current transfer of agricultural knowledge in KSA is mainly through the informal person-to-person channels and experience leading to scope of knowledge / information and skills gaps. There is a **need to develop formal agricultural training programs**



Agriculture Training Centers

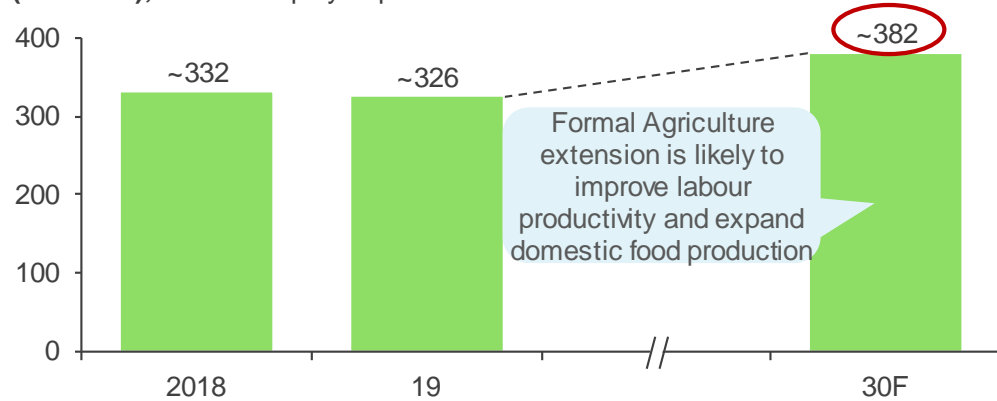
OPPORTUNITY DESCRIPTION: Invest in KSA's education sector by establishing high-quality, Agriculture focused TVET centers

FORMAL AGRICULTURE TRAINING

Workforce engaged in Agriculture in KSA

There is a need for setting up of formal training institutes to upskill the ~382K persons engaged in agriculture related activities by 2030F

Agriculture Employment Forecast, KSA (2015-30F); 000s of employed personnel



Forecast Assumptions

- 5%** Expected increase in labor productivity due to agricultural training
- ~20%** Expected increase in domestic food production
- 50%** Reduction in food wastage by 2030 (from 33% to 17%)
- 30%** Expected reduction in domestic food production-consumption shortfall



New-age Agricultural methods and technologies

Training the labour force in cutting edge, innovative agricultural methods can increase output and reduce wastage of resources



Satellite and Thermal Imaging of Cropland

Can be used to **track the harvest and weather conditions** and improve yield



Drip Irrigation

Can significantly **reduce the usage of scarce water**



Seawater Green Houses

Reduce the use of fresh water and shield the crop against adverse weather conditions



Rainwater Harvesting

Help recharge underground aquifers and **reduce dependence on desalinated water**



Hydroponics

Plants can be **grown in nutrient enriched freshwater** instead of soil



Biomass/Biofuel energy

Food waste can be used to fuel the agriculture value chain in order to establish a **circular economy**



Bio salinity research

Expansion of research in physiological and biochemical traits of plants can help in **genetic engineering** to make plants more tolerant to saline water

DISCLAIMER

- This report must be used only to access information, and the information must not be construed, under any circumstances, explicitly or implicitly, as an offer to sell or a solicitation to buy or sell or trade in any opportunity herein mentioned.
- Ministry of Investment (MISA) has no undertaking to update these materials after the date, with the understanding that such information may become outdated or inaccurate.
- Mentioned information in this report is obtained from reliable sources but its accuracy and reliability are in no way guaranteed. No guarantee of any kind is tacit or explicit when projections of future conditions are attempted. MISA has used public/or confidential data and assumptions and has not independently verified the data and assumptions used in the analyses. Changes in underlying data or operating assumptions will clearly impact the analyses and conclusions.
- The financial evaluations, projected market and financial information, and conclusions contained in these materials are based upon standard methodologies, are not definitive projections, and are not guaranteed by MISA
- The content of this report must not be construed as an implied promise or guarantee for profit or limited loss express or implied by or from MISA or any of its officers, directors, employees and affiliates. All mentioned investments in this report are subject to risk, which should be considered prior to making any investment decisions
- MISA shall have no liability whatsoever to any third party, and hereby any third party waives any rights and claims it may have at any time against MISA with regard to this report, any services or other materials, including the accuracy or completeness thereof.