



OCP Policy Center Conference series

Food Security in the Desert What does it take ?

Bassel T. Daher

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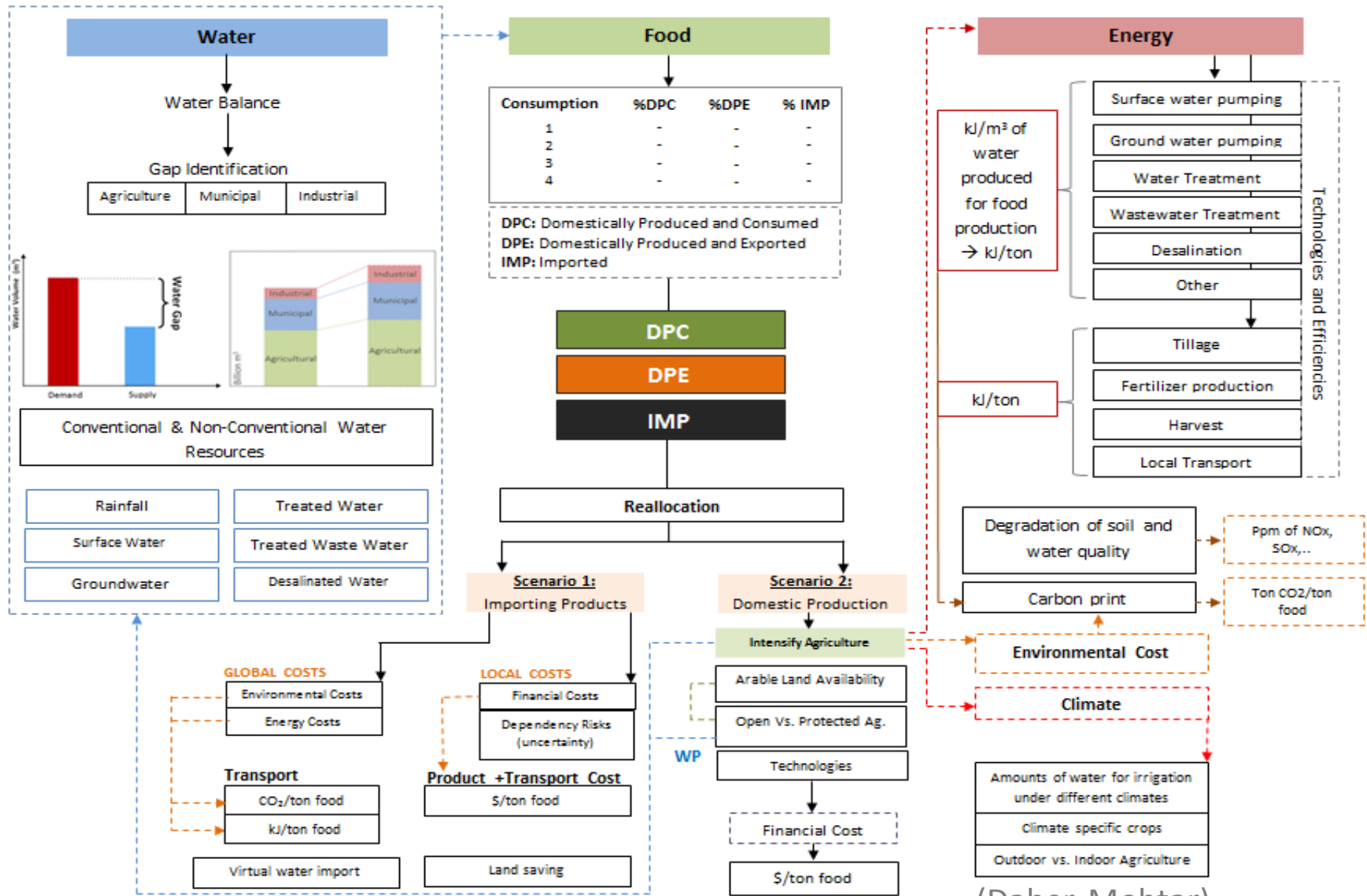
Qatar

- Ranks 3rd in NG reserves; Ranks 12th in Oil reserves
- Arid Climate
- **Water:** Desalination
- **Agriculture:** limited by low water quantity and quality, unsuitable soil, climatic conditions → low crop yields
- Food imports exceed 90%
- Qatar National Vision 2030
- Qatar National Food Security Program (QNFSP)



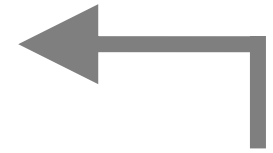
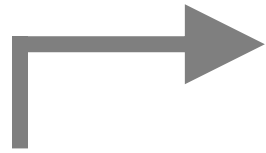
(Source: Athaia, 2011)

Conceptual Framework





The Resource Management Strategy Guiding Tool



ADMIN interface

Local Characteristic Data

Local Yields

Water Requirements

Energy Requirements

Land Availability

Import Data

Other

Science

USER interface

Scenario Components

Food Self-Sufficiencies

Water Sources and Amounts

Energy Sources and Amounts

Sources of Import Countries

Tool Output

Water Requirement (m3)

Financial Requirements (\$)

Local Requirement (ha)

Energy-Import (kJ)

Local Carbon Emissions (ton CO2)

Carbon-Import (ton CO2)

Land Requirement (ha)

Policy

Sustainability Index of Scenario

(Daher, Mohtar)

Qatar Case Study

Combined self-sufficiency = 15% (2010)

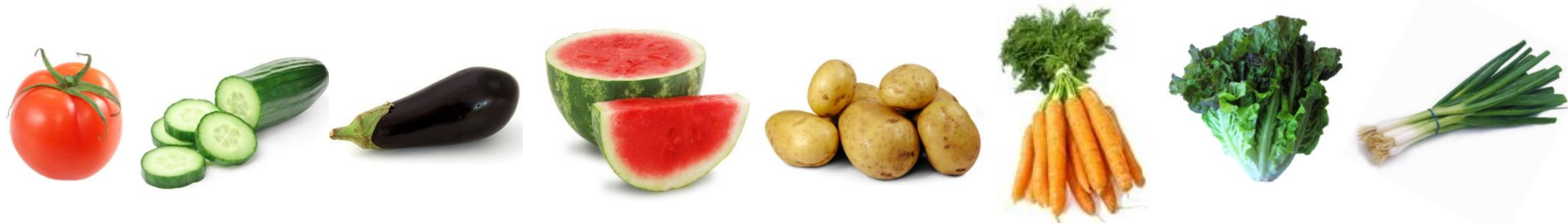
Tomato and Cucumber are partially done in protected agriculture

Groundwater is main source for agriculture

Natural Gas is main source of energy

Imports secured from **15 different countries**

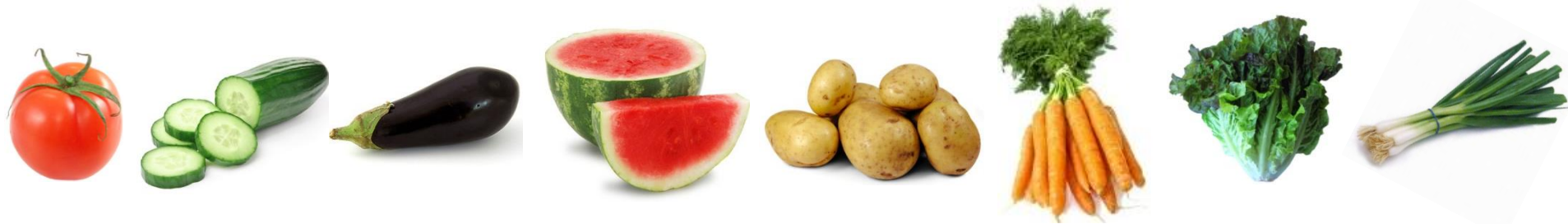
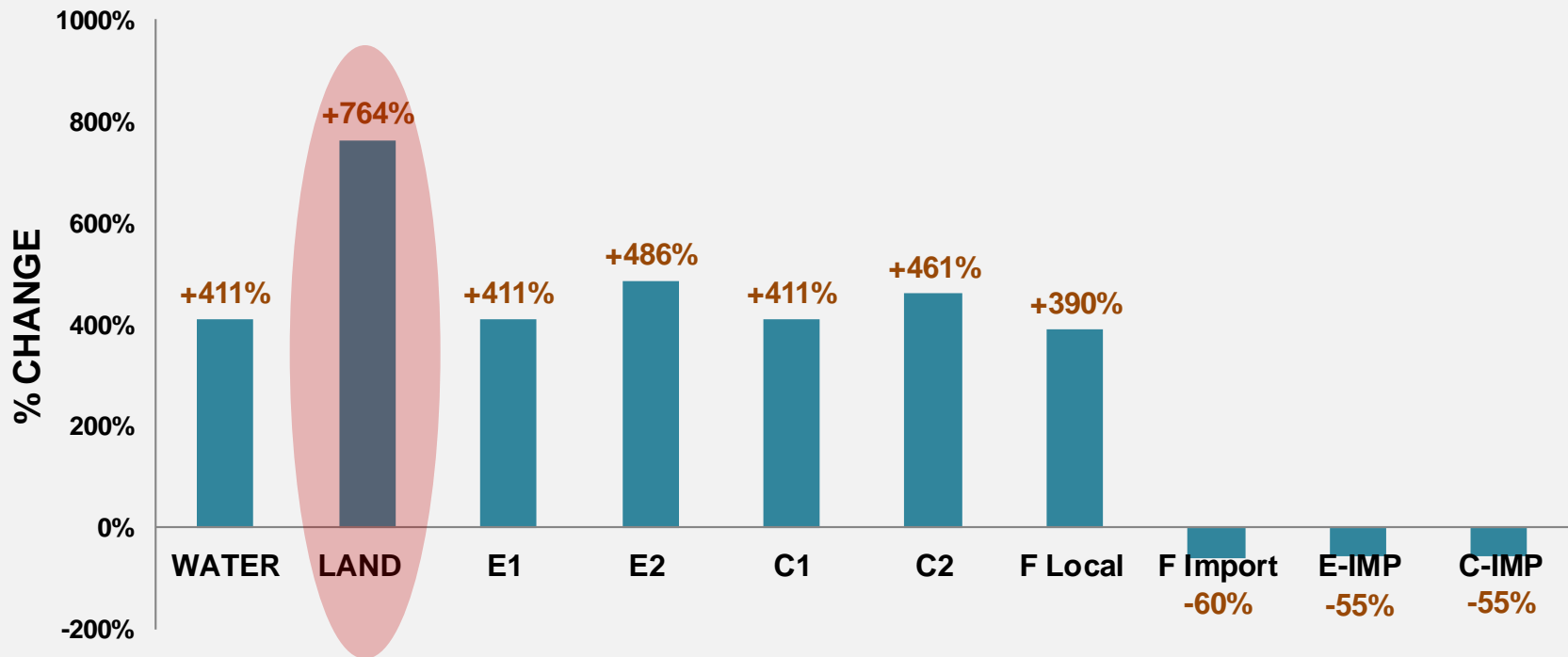
WATER (m3)	5,783,797
LAND (ha)	792
E1 (kJ)	24,699,706,932
E2 (kJ)	15,000,733,177
C1 (ton CO2)	3,039,436
C2 (ton CO2)	1,089
F Local (QAR)	48,940,200
F Import (QAR)	3.68E+08
E IMP (kJ)	1.2117E+12
C IMP (kJ)	92,987



Discussions

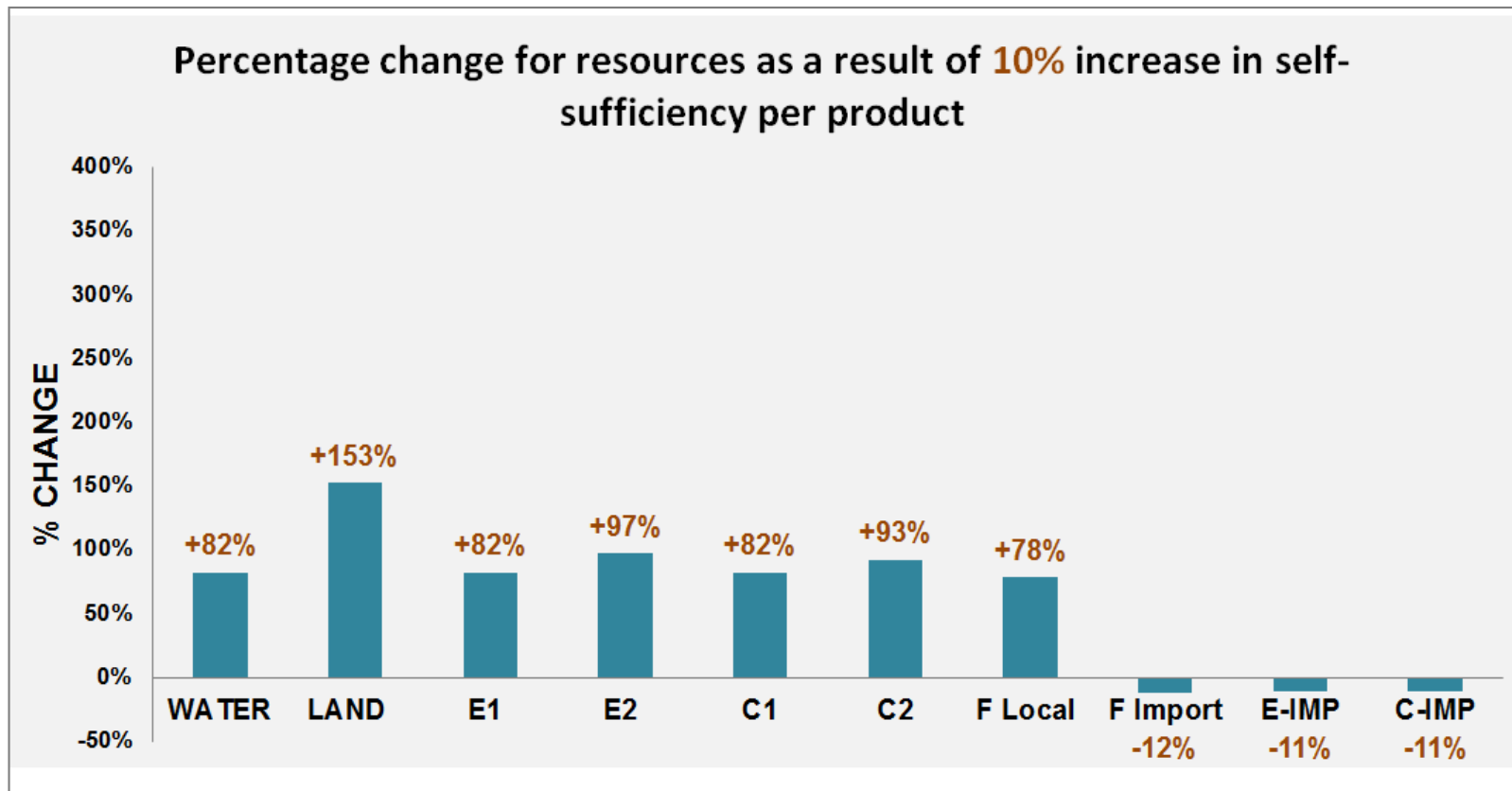
Hypothetical Scenario

Percentage change for resources as a result of 50% increase in self-sufficiency per product



Discussions (cont'd)

- Most **sensitive** does not mean most **critical**!

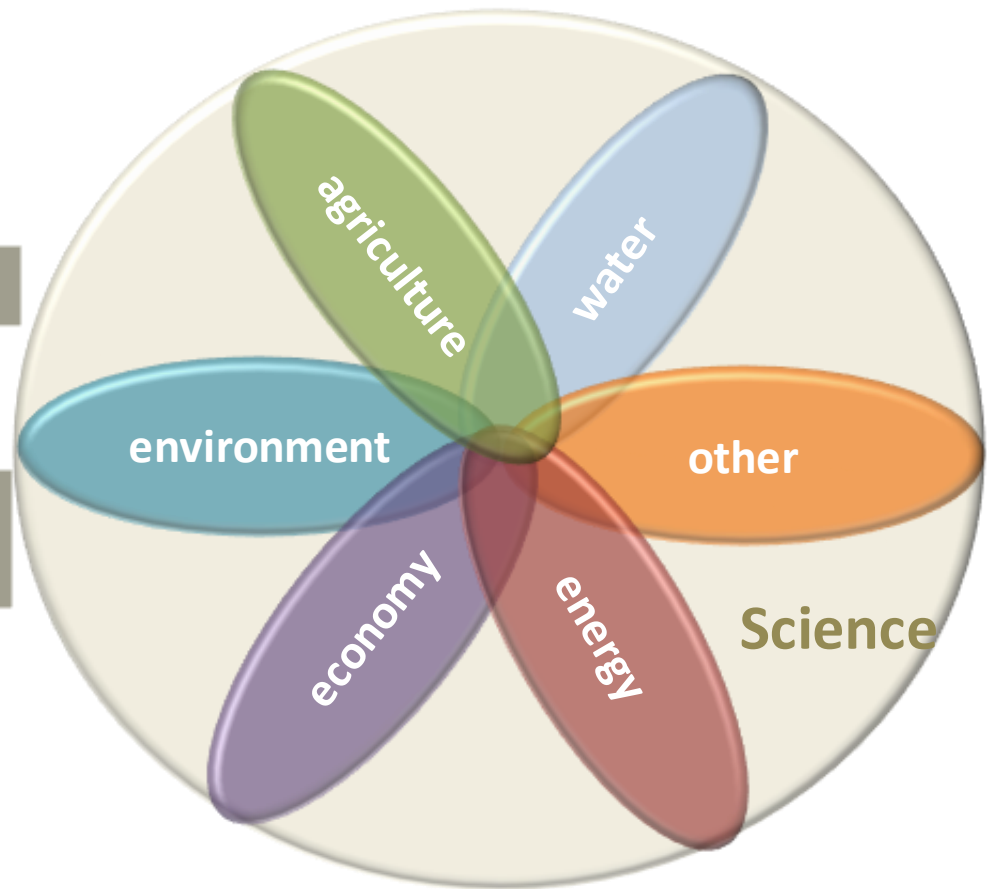


Integrative Planning

Two necessary spaces for collaborative and integrative planning

among decision making entities

among decision making entities &
science



wefnexus tool.org



The Resource Management Strategy Guiding Tool

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Thank you