مؤسسة قطر
Qatar Foundation
للتربية والعلوم وتنمية المجتمع
for education, science and community development

Unlocking human potential. لإطلاق قدرات الإنسان.

Strengthening the Interface between Science and Policy Communities through Inclusive Tools

Expert Group Meeting on the science-policy interface

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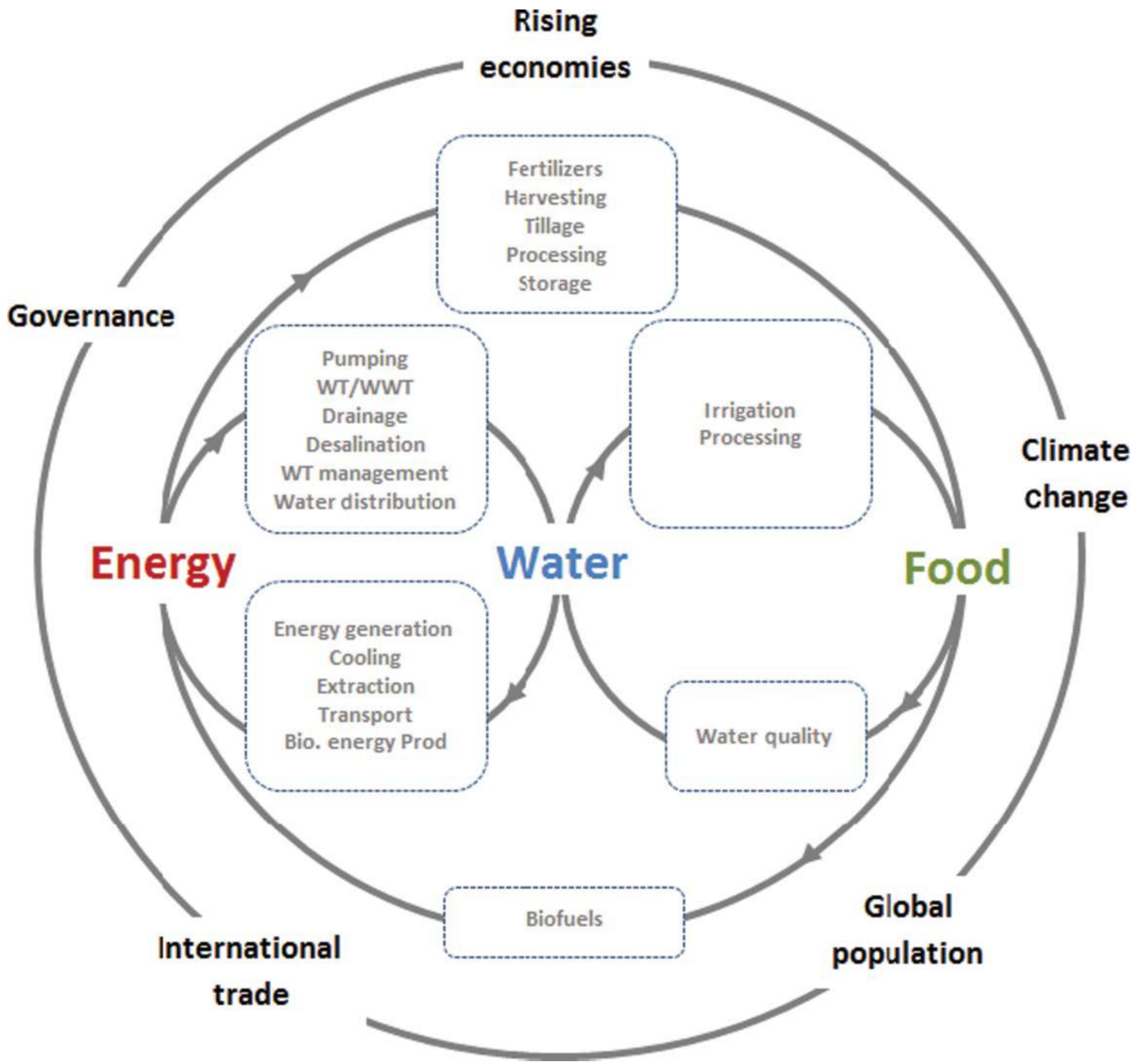
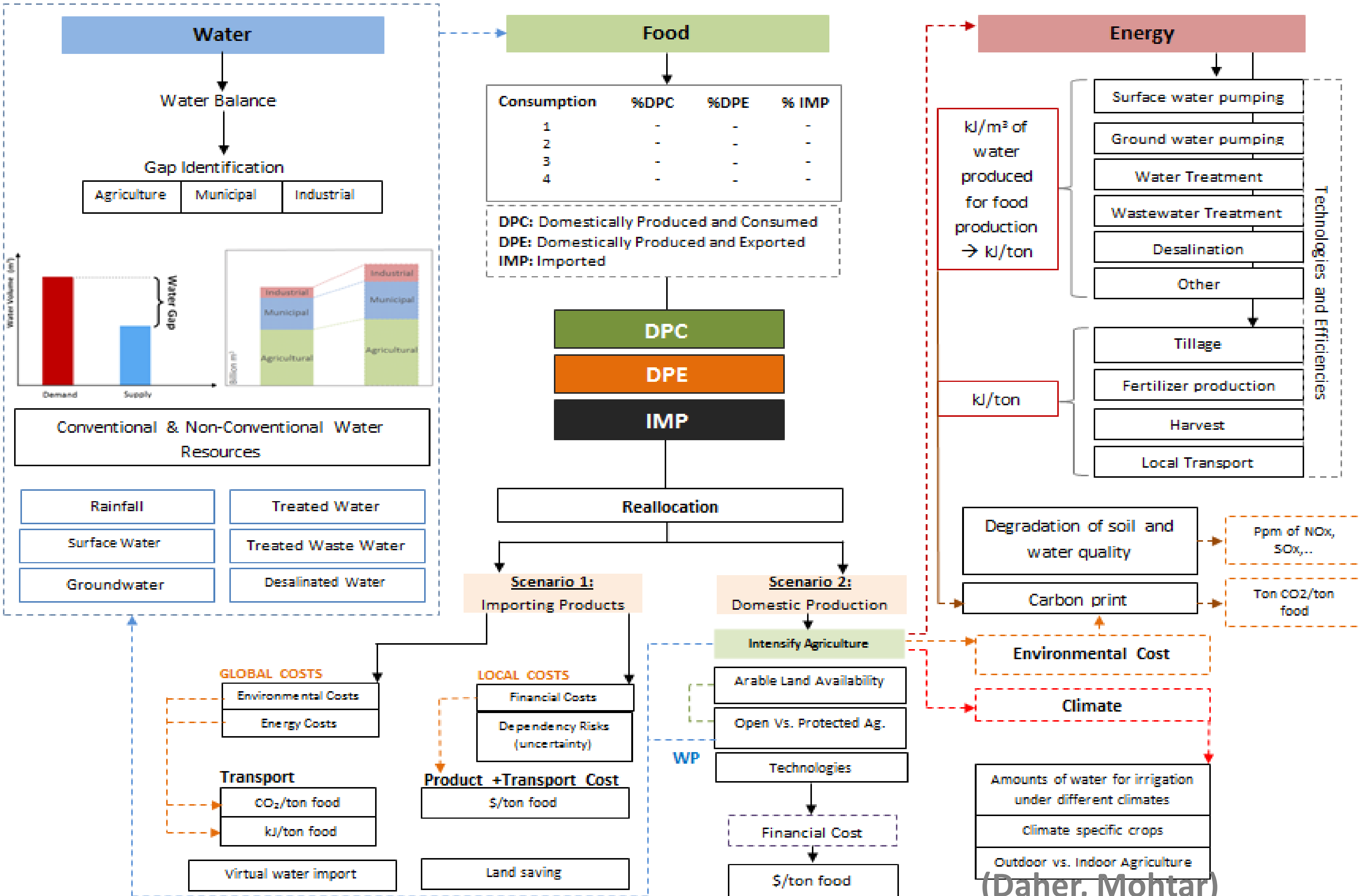
UNHQ, New York, September 5, 2013

Water-Energy-Food Nexus



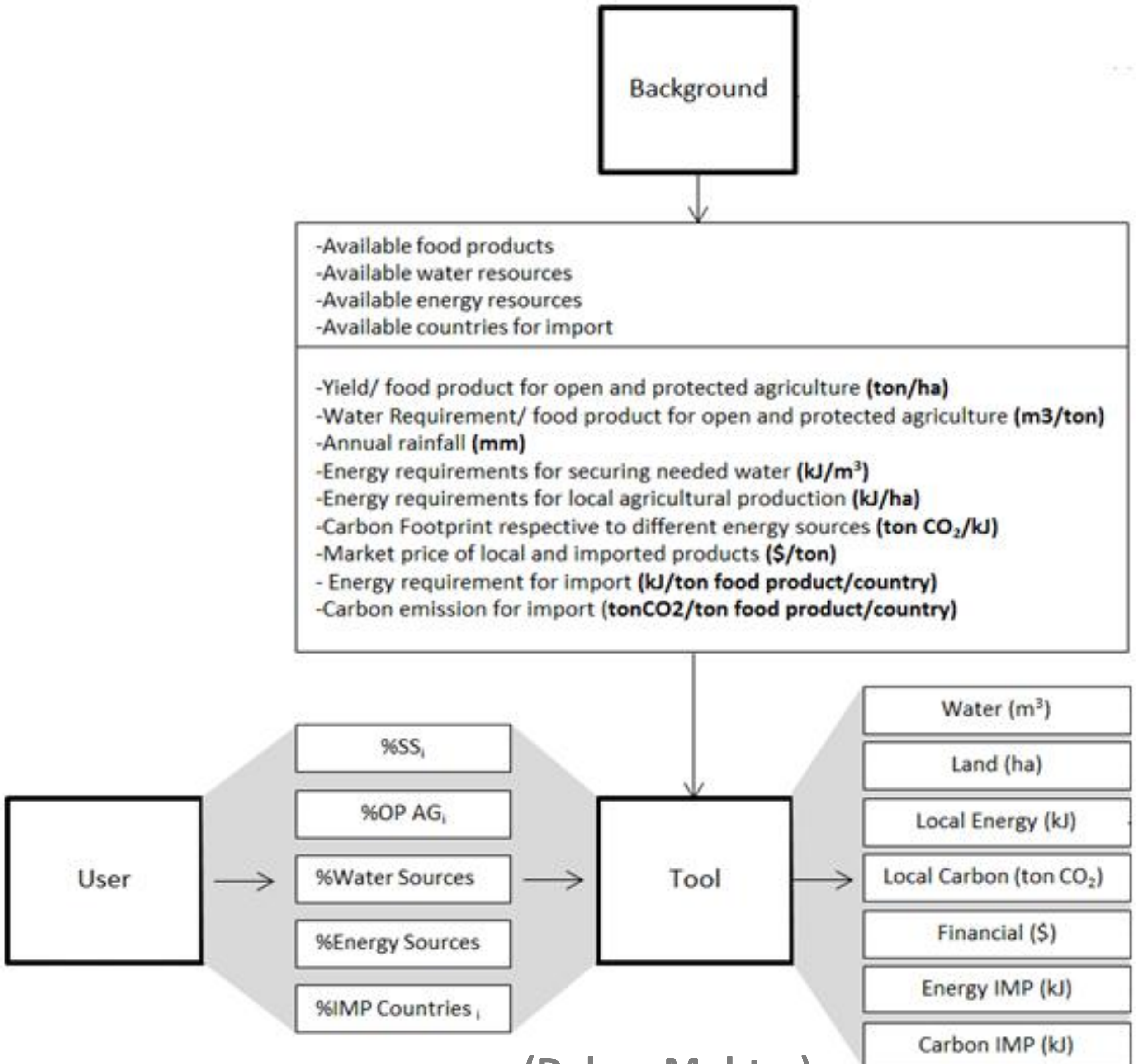
(Mohtar, Daher, 2012)

Conceptual Framework



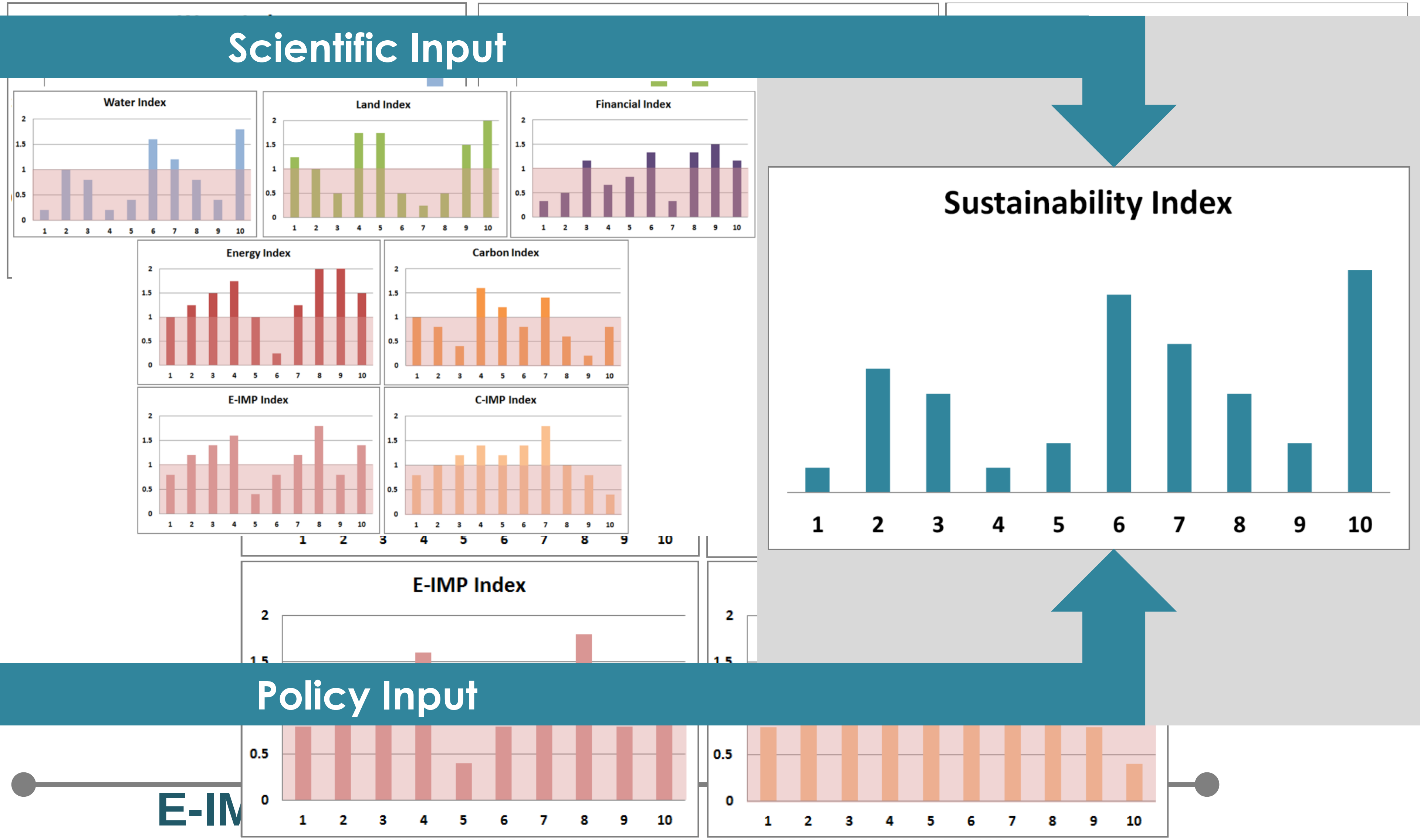
(Daher, Mohtar)

Tool Structure



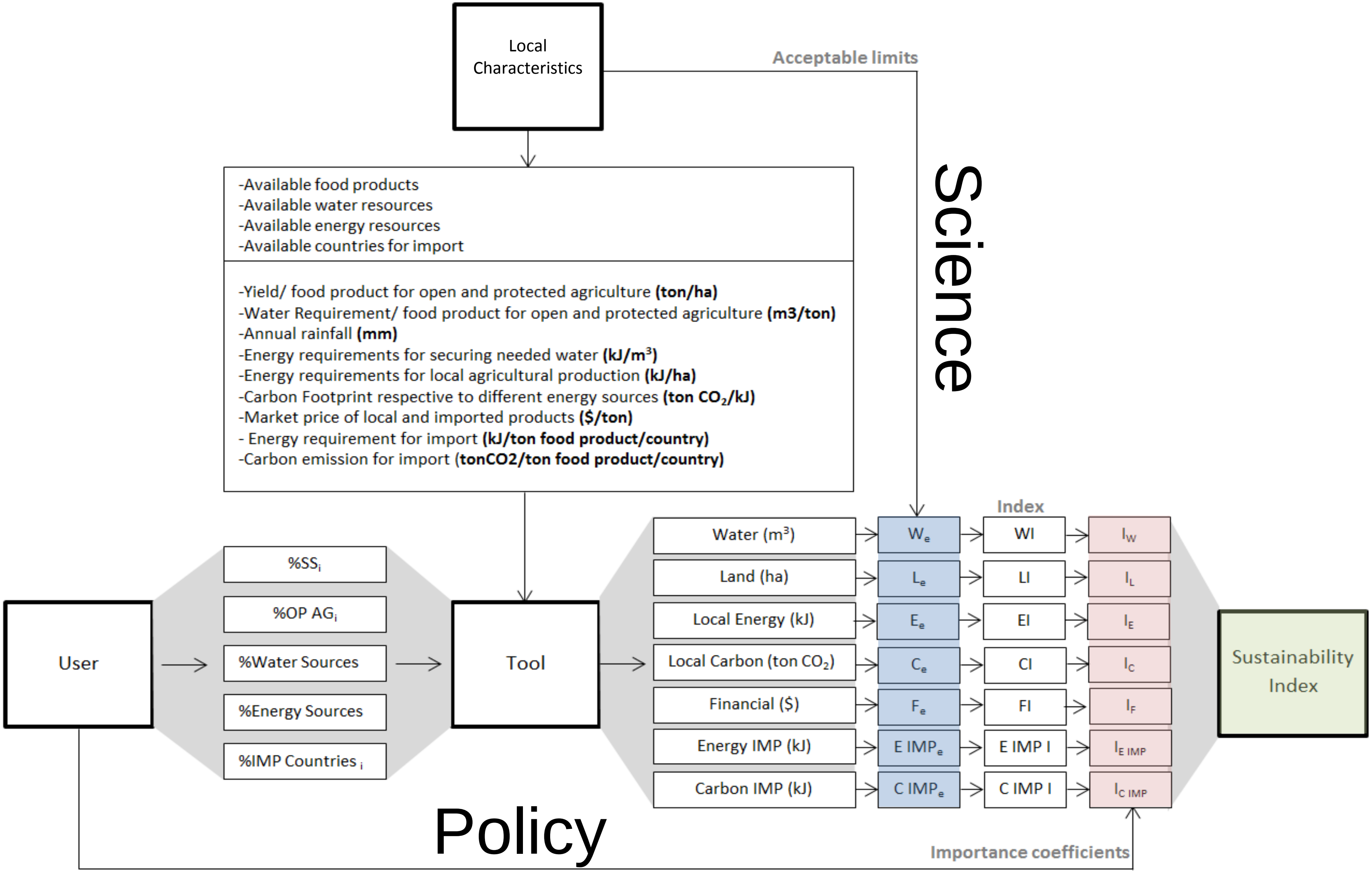
(Daher, Mohtar)

Water-Energy-Food Nexus



$$I_W + I_L + I_E + I_C + I_F + I_{EIMP} + I_{CIMP} = 100$$

Too Structure



(Daher, Mohtar)

Qatar Case Study

Combined self-sufficiency = 15% (2010)

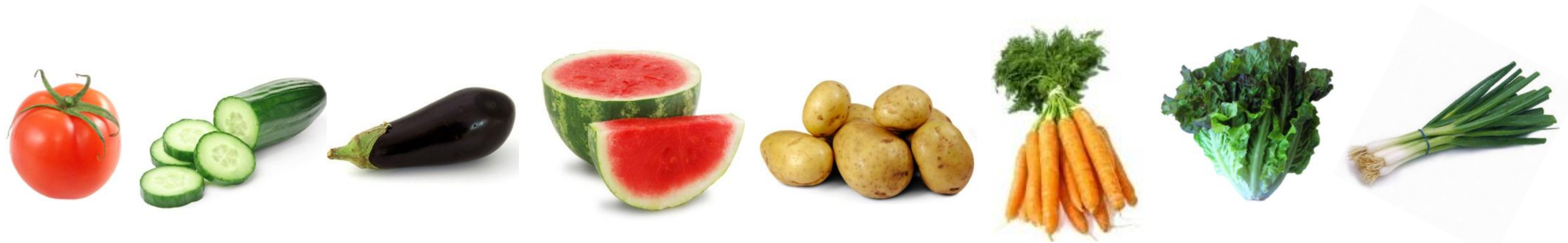
Tomato and **Cucumber** are partially done in protected agriculture

Groundwater is main source for agriculture

Natural Gas is main source of energy

Imports secured from **15 different countries**

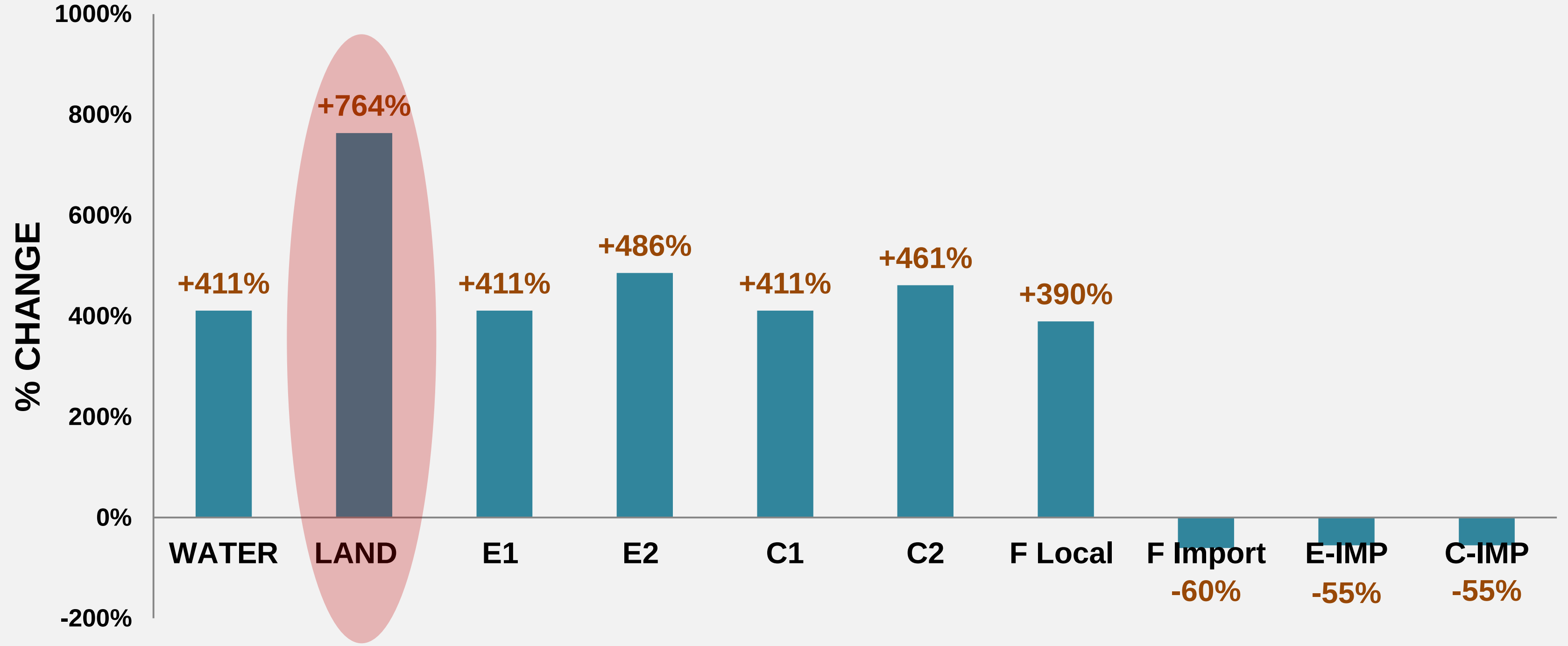
WATER (m3)	5,783,797
LAND (ha)	792
E1 (kJ)	24,699,706,932
E2 (kJ)	15,000,733,177
C1 (ton CO_2)	3,039,436
C2 (ton CO_2)	1,089
F Local (QAR)	48,940,200
F Import (QAR)	3.68E+08
E IMP (kJ)	1.2117E+12
C IMP (kJ)	92,987

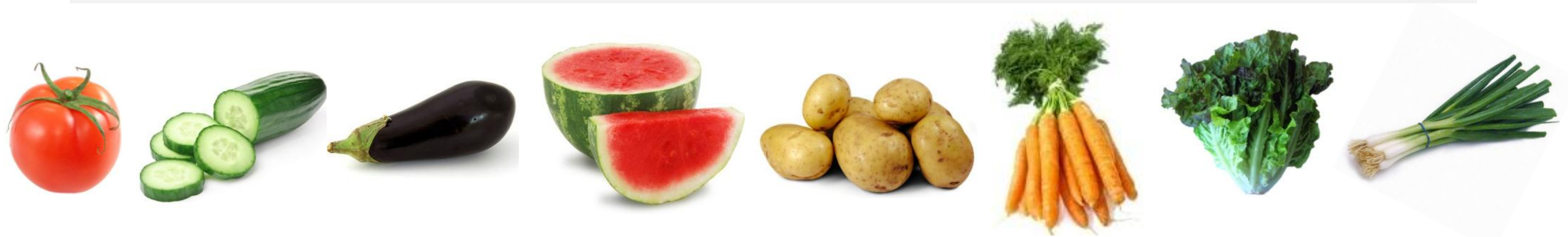


Discussions

Hypothetical Scenario

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



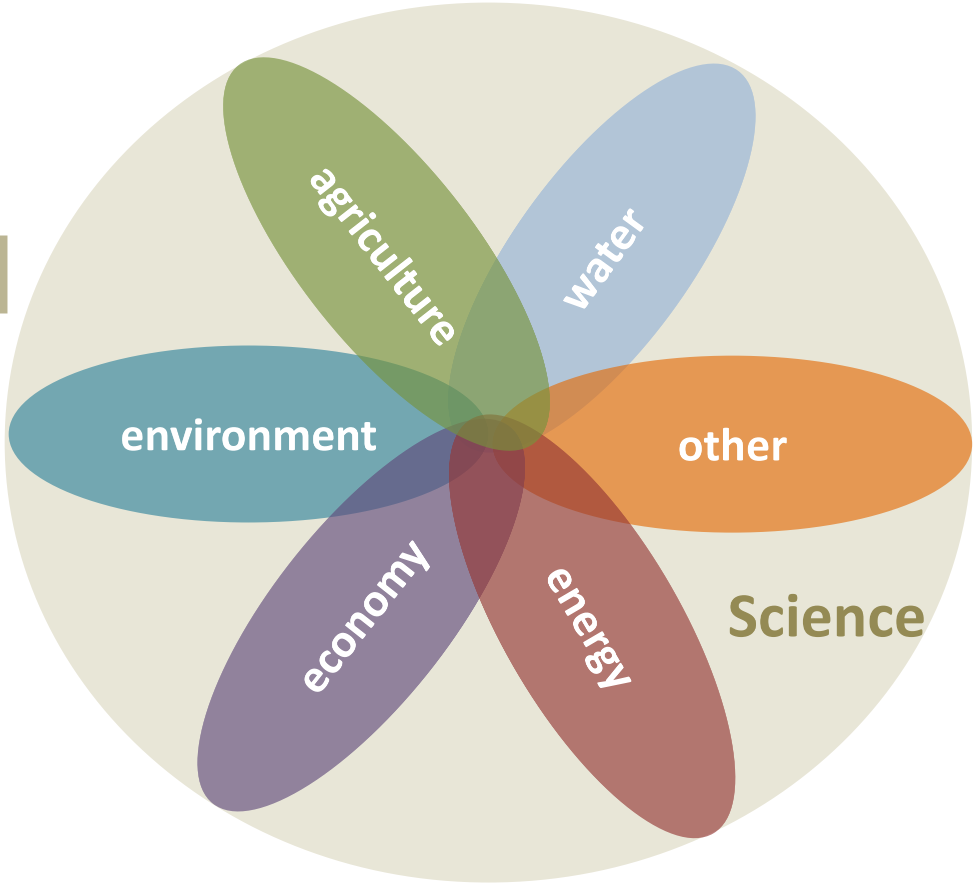


Integrative Planning

Two necessary spaces for collaborative and integrative planning

among decision making entities

among decision making entities & science



Recommendations: Science

- **Academia** and current **reward system**

- Train a **new generation of professionals** with the skills needed to manage interactions between scientific experts and those with other kinds of specialized knowledge

- **Effective Science Communication**

- Deploy **tools** for managing and planning resources and risk management strategies

Recommendations: Policy

- **Inclusive discussions**. Make sure scientists and policy makers are in the same room
- Build **institutional capacity** required to implement collective decision making
- **Introduce platforms** to have scientists and policy makers meet
- **Consider non-stationarity** in policy decisions
- Promote **nexus friendly** & **site specific technology**
- Develop **local capacity** for R&D in sustainability