The Knowledge Farm





Challenge

Circular Food Systems:

• Implement an innovative aquaponics systems in the context of Aruba

Main challenges of Aruba:

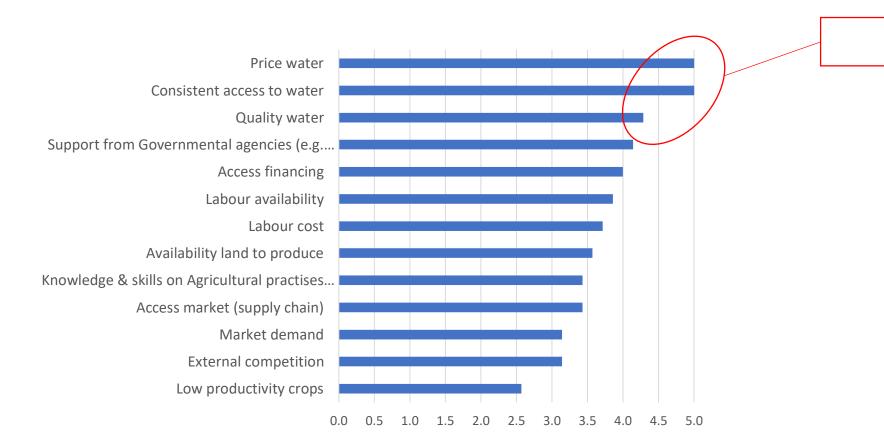
- Food security
- Water accessibility

Food security (Geo-political)





The most significant challenges to sustainable agriculture in Aruba as experienced by farmers:



Water related

Survey conducted by our group under the United Farmers Aruba Association members in 2018. (N=7).

Aruba GDP per sector



Source: Central Bureau of Statistics Aruba (2011).

Solution: Resilient Circular Food System

Economic:

- Tech innovation (lower water cost)
- Import substitution

Environment:

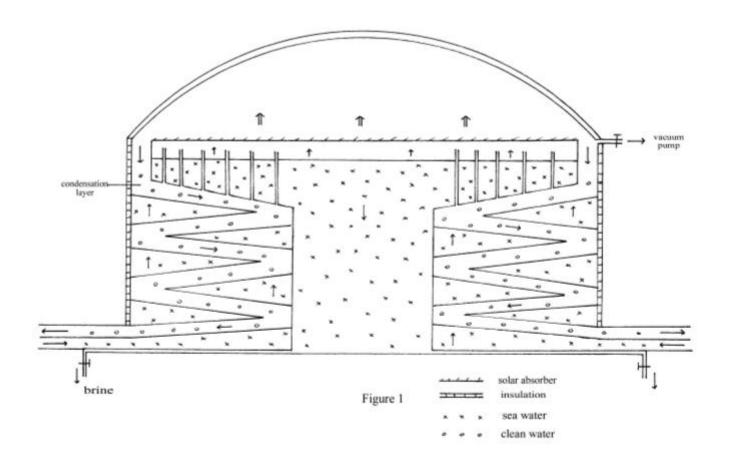
- Reduction CO₂ output
- Reduced soil stress
- Reduced groundwater stress

Social:

- Education
- Community sharing economy
- Cultural sensitivity

Tech innovation

- Sea water desalination through solar thermal energy.
- Demo pilot R&D:
 - Local crops
 - Data collecting (e.g. sensory)
 - Community sharing App



Social innovation

Aquaponics units and food subscription point at schools



