



# Water-Food-Energy Nexus Afghanistan

**Ministry of Agriculture, Irrigation and Livestock,  
Afghanistan**

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# Introduction

- Severe water scarcity in most areas, due to temporal and spatial variability;
- Climate change causing low production in rainfed-ag areas;
- Low land productivity;
- 88% covered by mountains, difficulty in access;
- Having high potential of energy production but still importing; and
- 47% population living below poverty line.

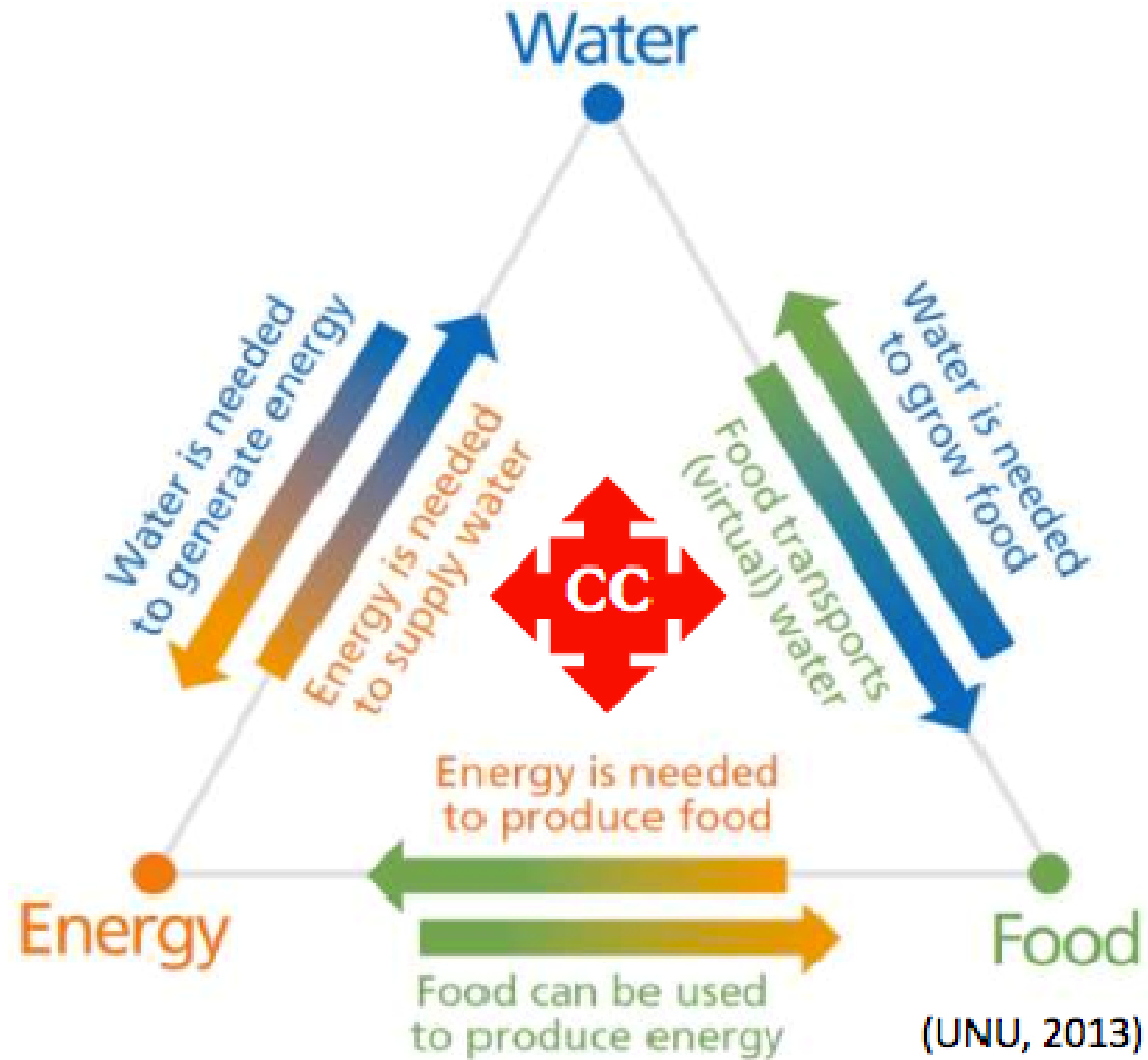
# Water-Food

- 90-95% of total water used for food production;
- 2.1 M-ha of irrigated agriculture;
- 1.2 M-ha of wheat area (main food);
- 4.5-5.5 M-Ton of wheat production, 1-2 M-ton annual deficit;
- Annual 400 M-US\$ agriculture export;
- Annual 2-3 Billion-US\$ agriculture import;
- Droughts and Floods; and
- Climate Change.

# Water-Energy

- Potential of producing 23,000 MW of hydro-energy;
- Producing less than 500 MW;
- Existing basic demand: more than 4,000 MW;
- Energy Import accounts for 77% of demand:
  - Iran (22%) under 1 contract
  - Tajikistan ( 4%) under 2 contracts
  - Turkmenistan (16%) under 2 contracts
  - Uzbekistan(57%) under 1 contract.

# Water-Food-Energy



# Water-Food-Energy

- Lift irrigation is immense need of Afg-Ag Sector, but due high rates of energy in the country not implemented easily;
- High Efficiency Irrigation Systems in most cases need energy;
- Ag-products processing and value chains strongly linked with energy; and
- Mechanized farming directly linked with energy.

# Recommendation

- W-F-E Interactions are vital and interdependent;
- Importance of the nexus is not recognized from a planning and management perspective;
- There is an urgent need for a “Nexus Approach” for integration of management and governance across the three sectors; and
- Policy alignments.

# Questions and Comments

