WORD WATER DAY MURCIA 2020
WORKING PAPER

WATER AND CIRCULAR ECONOMY
(ENTREPRENEURSHIP)

Authors:
Moath Dweik, Chemical Engineer, Jordan
Anass Ezzemri, Electrical Engineer, Morocco

Mentor:
Dr. Dorte Verner
Water

Covers 70% of the earth
3% is freshwater
2/3 of fresh water placed on frozen glaciers
Water Scarcity
Water Scarcity

Supply

Conventional Resources

Surface Water

Ground Water

Demand

Agriculture

Industrial

Domestic

water and circular economy
(entrepreneurship)
Water Scarcity (supply)

- Supply
  - Conventional Resources
    - Surface water
    - Ground water
Water Scarcity (Demand)

- Poor Management
- Lack of Infrastructure
- Demand
- Population Growth
- Agriculture
- Industrial
- Domestic
Water Scarcity (Facts)

- Now About 1.1 billion people worldwide lack access to water.
- A total of 2.7 billion find water scarcity for at least one month of the year.
- By the year 2050, an estimated 3.9 billion out of 9.7 billion might live in severely water-stressed river basins.
- Growth of population from now till 2050 will increase water demands by 400 percent from manufacturing, and by 130 percent from household use.
- By 2030, there will be a gap between water demand and water supply about 40 percent.
- Global demand for water expected to grow 50 percent.
Water Scarcity (MENA)

Water Withdrawals, by Sector, and by Country and Economy


Share of total water withdrawals (%)

Agriculture  Industry  Domestic
Circular Economy Concept
Water Desalination

- Supply
  - Conventional Resources
    - Surface water
    - Ground water
  - Non-conventional resources
    - Water Desalination

water and circular economy
(entrepreneurship)
Water Desalination (Reverse Osmosis)
Water desalination through the circular economy lens

[Diagram showing the process of water desalination through a circular economy lens, including steps for recovery and reuse of resources.]

- Fresh water
- Reverse osmosis plant
- Zero liquid discharge plant
- Solids
  - Chemicals for reuse
  - Treated freshwater for reuse
  - Brine
  - Resource recovery ($)
  - Disposal
  - Renewable energy
Factors affecting the decision of constructing a desalination plant

- Water resources
- Desalination process
- Energy
- Institutional arrangements and Capacity building
- Economy and Affordability
- Environmental Impact

water and circular economy (entrepreneurship)
Entrepreneurs

• Taking some risky actions to construct and implement such projects required elite and fearless characters.

• Initiative and creative people.

• Their innovations can improve living standards, create wealth and create jobs.

• Have an important role in the field Circular economy by creating new business models in every loop segment that represented in the circular economy section.
Conclusion

Decrease the gap between supply and demand

water and circular economy (entrepreneurship)
Thanks for your Attention