



**Fourth African Water Week
Cairo – May 2012**

Renewable Energy for Rural Development – Hope or Mirage?

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People are Partners in Three Things: Water * Grazing * Fire

Ancient Arabic Proverb

AFRICA

- Abundant land and water resources
- vs.
- Severe shortage in food and energy



Energy for Agriculture in Africa

Severe
shortage

Poor
Resource
Mgmt

Zero
Efficiency



Wrong Use
of
Resource

No Vision

Zero
Production

FAMILIAR NUMBERS

Area	Million ha
Total Area of arable land	771
Area under agriculture	210
Irrigation Potential	42
Current Irrigation	13

INFRASTRUCTURE FINANCING GAP

- Different Estimations:
 - FAO/IFAD Study: USD 85 Billion (W&Ag)
 - NEPAD-CAADP: USD 37 Billion (Agriculture)
 - ICA: USD 48 Billion/yr (▲35% Energy)
 - HLC Preparation: USD 62.5 Billion (W&Ag)

Energy Use for Irrigation

- Current 13 m ha:
 - Tentative Estimation = 8 million barrel/yr
- Potential:
 - Needs for 42 m ha = 26 million barrel/yr
- What does this mean???
 - Nigeria production of oil in 12 days
 - Fuel consumption of 2 million cars/yr
 - CO₂ release of 8 million ton/yr
 - Annual Cost of USD 2.6 billion/yr
- Not including marketing & agro-processing

ALTERNATIVES (1)

■ HYDRO-ENERGY

- Large: High capital cost – high distribution cost
- Mini: Medium capital cost - high distribution cost
- Micro: Moderate cost – local – lack of data – not always available

■ SOLAR ENERGY

- High capital cost
- Zero distribution cost
- Available continental-wide

ALTERNATIVES (2)

- WIND ENERGY
 - Available only in costal areas
 - High capital costs
 - Zero distribution cost
 - High O&M cost

- OTHER RE SOURCES (Bio-Animal-Human)
 - Limited scale
 - Low efficiency

Way Forward

- Concessional fund for RE use (RERD)
 - Carbon fund and credits, development incentives
- Knowledge and awareness dissemination
 - WUAs, CSOs, Training, etc.
- Research and development
 - Encourage local research and localize production
- Policy reform
 - Subsidies, buy excess production, etc.
- AfDB



Thank you

