

Opportunities for Women in Development & Management of Water in Kenya

Presentation by:

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-----“Equity, Diversity, and Inclusion: Water Unites Us”-----

UNESCO-Kenya National Commission, NACOSTI & Ministry of Education

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1. WATER-RELATED CHALLENGES FACING WOMEN & GIRLS

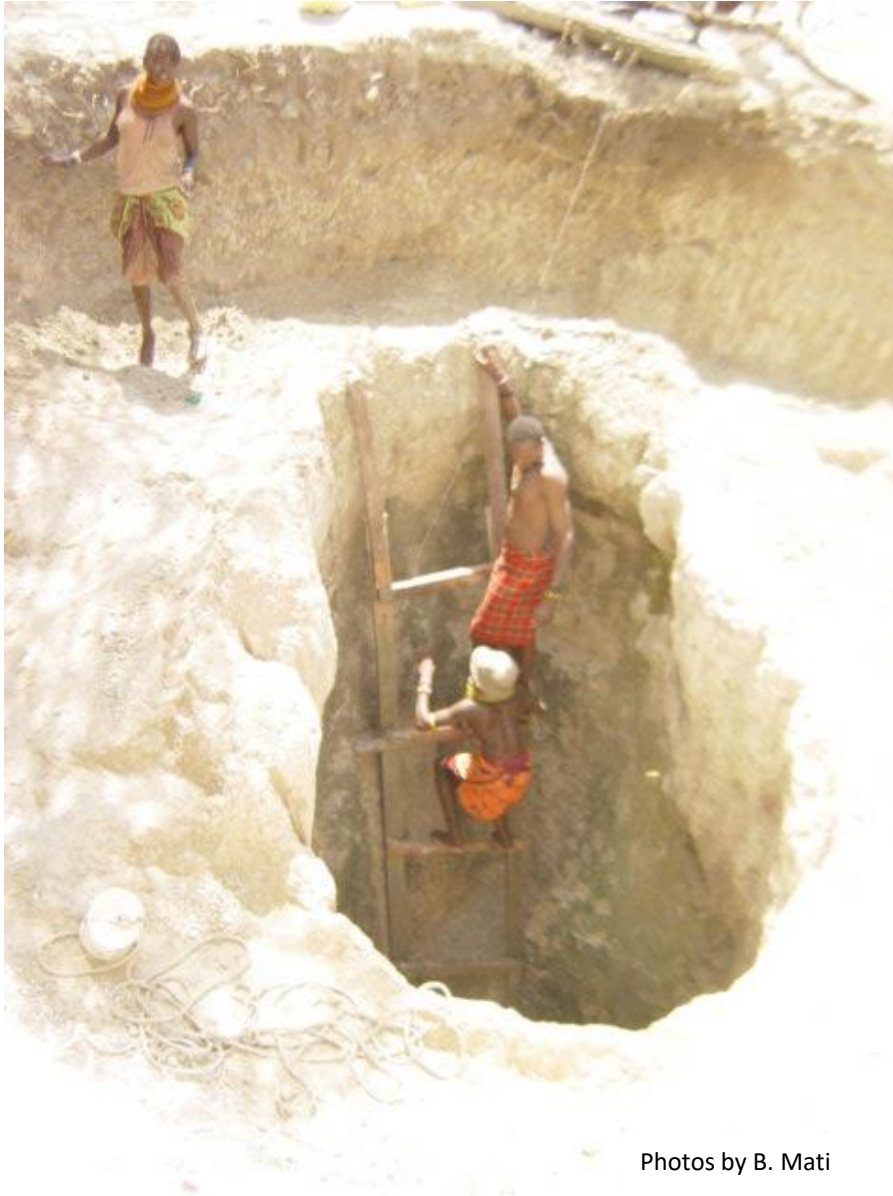
Women and girls carry the burden of fetching water



Challenges remain in Access to Safe Drinking Water



Improving water extraction technologies – is this adequate?



Photos by B. Mati

Floods occur in both urban and rural areas



Flooding in western Kenya (Bundalangi)



Flush floods in Narok town



Flooding in Kajiado-Loitokitok



Flooding in Isiolo

Water Infrastructure failures = wasted resources



Examples

- Breach of embankments
- Dams/pans silt too soon
- Pollution of water storages
- Dry boreholes
- Seepage problems
- Water deficits/inadequate design



Pollution threats on Water Resources and Ecosystems



2. WHAT IS?

**SCIENCE,
RESEARCH
ENGINEERING,
TECHNOLOGY
INNOVATION**

What is Science? What is Research?

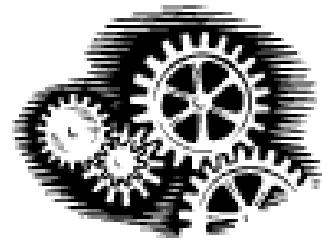


- **Science** is a systematic and logical approach to discovering how things work. It is derived from the Latin word “scientia,” which translates to knowledge.
- **Science** is the organized body of knowledge that is derived from such observations and that can be verified or tested by further investigation.
- ❖ **Research** is the creation of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts, methodologies and understandings.
- ❖ **Research** is about the gathering of data, information and facts for the advancement of knowledge



What is Engineering? What is Technology?

- ❑ **Engineering** is a profession in which the knowledge of the mathematical and natural Sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the benefit of mankind
- ❑ **Engineers** apply the principles of science and mathematics to develop economical solutions to technical problems.
- **Technology** is the use of scientific knowledge for improving the way to do things e.g. to create machines or devices to make things easier.
- Whereas science is concerned with how and why things happen, **technology** focuses on making things happen.”



What is Innovation?

Innovation – The fresh/original or radical thinking/idea, or new ways of doing things, creating gadgets or business processes, that adds value, creates wealth or improves social welfare.



- Innovation deviates from “Business as Usual”
- Innovation "*brings ideas to life, through action*"
- It improves *efficiency, productivity, quality, competitive positioning and market share*, performance and growth .

Creativity is about coming up with ideas... but it requires **Action** to become **Innovation**.

- Innovation is not learnt in class or college, it is **about turning ideas/dreams into substance!**

3. OPPORTUNITIES FOR WOMEN IN WATER RESOURCES DEVELOPMENT & MANAGEMENT

Design & Construction of dams can be done by women



Dams are needed to store water for:

- Urban and rural water supplies
- Irrigation
- Generation of electricity
- Strategic water reserves
- Drought mitigation
- Flood control

Development of water supplies & infrastructure



Roof water harvesting for drinking water



Irrigation water supplies



Spring protection/water supplies



Pumped water supplies

Rainwater harvesting & Storages (pans, weirs, farm ponds)



Water pan



Weir across a dry river bed



Farm pond

Design of water conveyance infrastructure

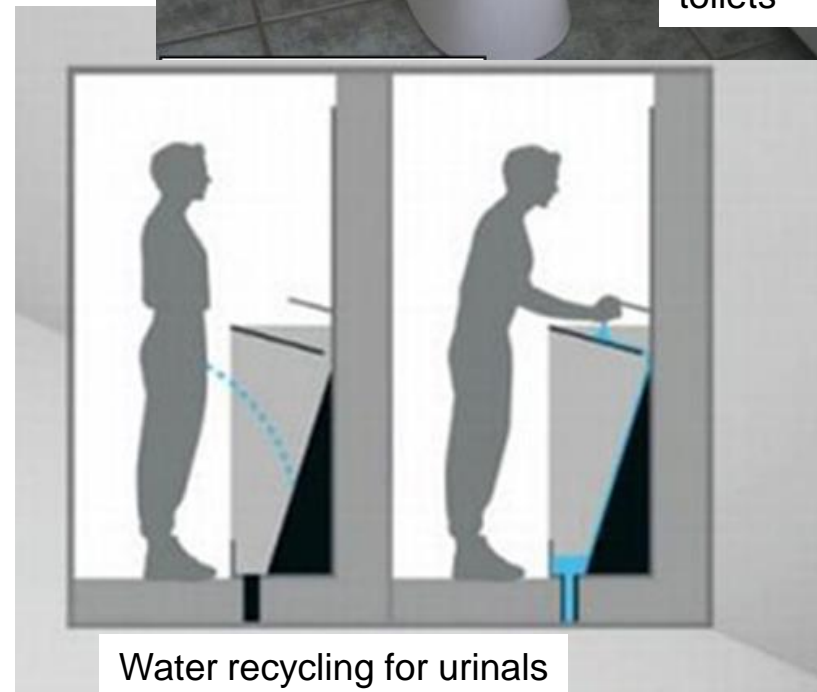


Lined canals to reduce seepage losses



Design of piped gravity flow water supply systems

Design of water saving toilets & eco-sanitation facilities



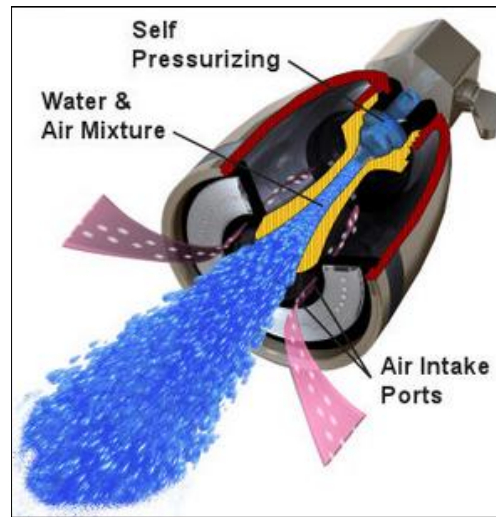
Design of gadgets to save water within houses



Kitchen tap fitted with aerator



Simple flow regulators to fit various types of taps & uses



Fittings e.g. low-flow aerators on taps, reducers & shower heads to save water at home



Irrigation Design, Development, Operation & Maintenance



Centre Pivot system for large scale irrigation



Sprinkler irrigation



Drip irrigation



Greenhouse farming— *very efficient on water use*

Solar Powered Pumping Systems for Irrigation and Drinking Water



Way Forward

- Girls need to study Science and Mathematics in school, to become professionals in STEM and the Water Sector
- Those who take geography, biological and social sciences are also needed in water resources management
- Kenya needs to mainstream water knowledge into school curricula (especially now under CBC)
- It is important to accord women opportunities for employment/service providers in water sector
- Provide institutional support e.g. capacity building, incentives, access to information to women on avenues to engage in water
- Remove the burden of fetching water by girls & women by ensuring clean water for all by the year 2030!



THANK YOU

