



# Green Academies

## Caste study: Sheder Refugee Camp

*Delivering capacity  
in Ecology*

Photos courtesy of Atz Alimati ©

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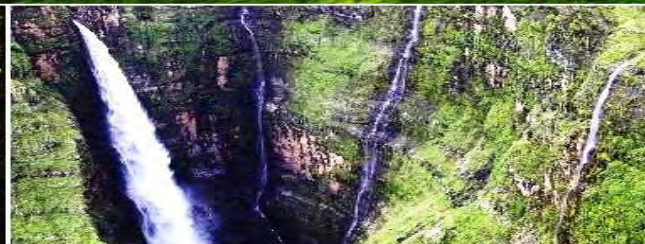
[www.unesco.org/new/en/addisababa](http://www.unesco.org/new/en/addisababa)

UNECA Building, 1st floor, new building  
P O Box 1177, Addis Abeba, Ethiopia



**GLOBAL CITIZEN  
FOUNDATION**

*Involve. Evolve. Empower.*



## Presentation

- Science Programme of UNESCO Addis Abeba Liaison Office
- History of UNESCO's Better Buildings Initiative
- UNESCO Green Academies – the concept and planned scope
- Planning the Inauguration of the Beza Bezuhan School inside the Lake Tana Biosphere Reserve in Ethiopia
- Plans for the Sheder Refugee Camp





## Science Program at UNESCO Addis Abeba

- Floating mangroves for carbon neutral renewable energy (coastal BR)
- Environmental film series for awareness and education (all BR)
- Botany:
  - a. Reforestation with indigenous trees
  - b. Botanical walk-about for awareness, education and tourism
  - c. Abrahamic botanic garden (biodiversity conservation of Afro-Alpine flora; environmental best practices; rapprochement of cultures)
- Biosphere Reserves as places for sustainable human living and achieving the UN SDGs
- BR Excursion Ethiopia & UAE to produce future environmental managers
- QUEST 4 AFRICA (from rhetoric to action)
  - Involve the youth; develop working-groups and action to achieve UNSDGs
- Green Academies for climate resilience
  - Schools; kindergartens, colleges; universities; refugee camps; other buildings; rain-water; grey-water; black-water; science-education clubs; promotion of peace



## History of Better Buildings Initiative

- 2009: Gulf Arab Women suggest to UNESCO to work towards environmentally friendly buildings
- 2010: UNESCO & FEC organizes a workshop 'Better Buildings'
- 2010: UNESCO launches a publication 'Better Buildings'
- 2010-2015: Various school activities in Kuwait, Qatar, Oman; poster exhibitions, theater plays etc.
- 2013: UNESCO Addis Abeba widens the concept into physical retro-fitting and youth-clubs and starts working on the first ever UNESCO Green Academy.
- 2015: 'UNESCO Green Academies' are being suggested as Pan-African Initiative.
- 2015: African Union and UNESCO establish partnership.
- 2015: UNESCO & UNHCR visit refugee camp as suitable sites.
- 2016: April 4-6<sup>th</sup> Inauguration of 1<sup>st</sup> ever 'UNESCO Green Initiative inside Lake Tana Biosphere Reserve in Ethiopia.



## The concept

- Establish rain-water collection facility
  - Enhance water availability during times of drought
  - Enhance climate and water management knowledge
- Establish waste-water recycling facility
  - Enhance water availability in times of drought
  - Drastically enhance hygienic conditions
  - Enhance water-management knowledge
- Establish application of renewable energy facility
  - Enhance sustainable energy supply
  - Enhance energy management knowledge
- Establish crop production facility inside the garden
  - Enhance urban agriculture capacity and food security
- Establish Youth Club
  - Drastically enhance environment knowledge of the youth
  - Enhance conflict-management and peace-development capacity
  - Develop custodians for 'UNESCO Green Academies'
  - Develop a vehicle to transport the whole concept from schools into the communities and assist reaching-out to many people

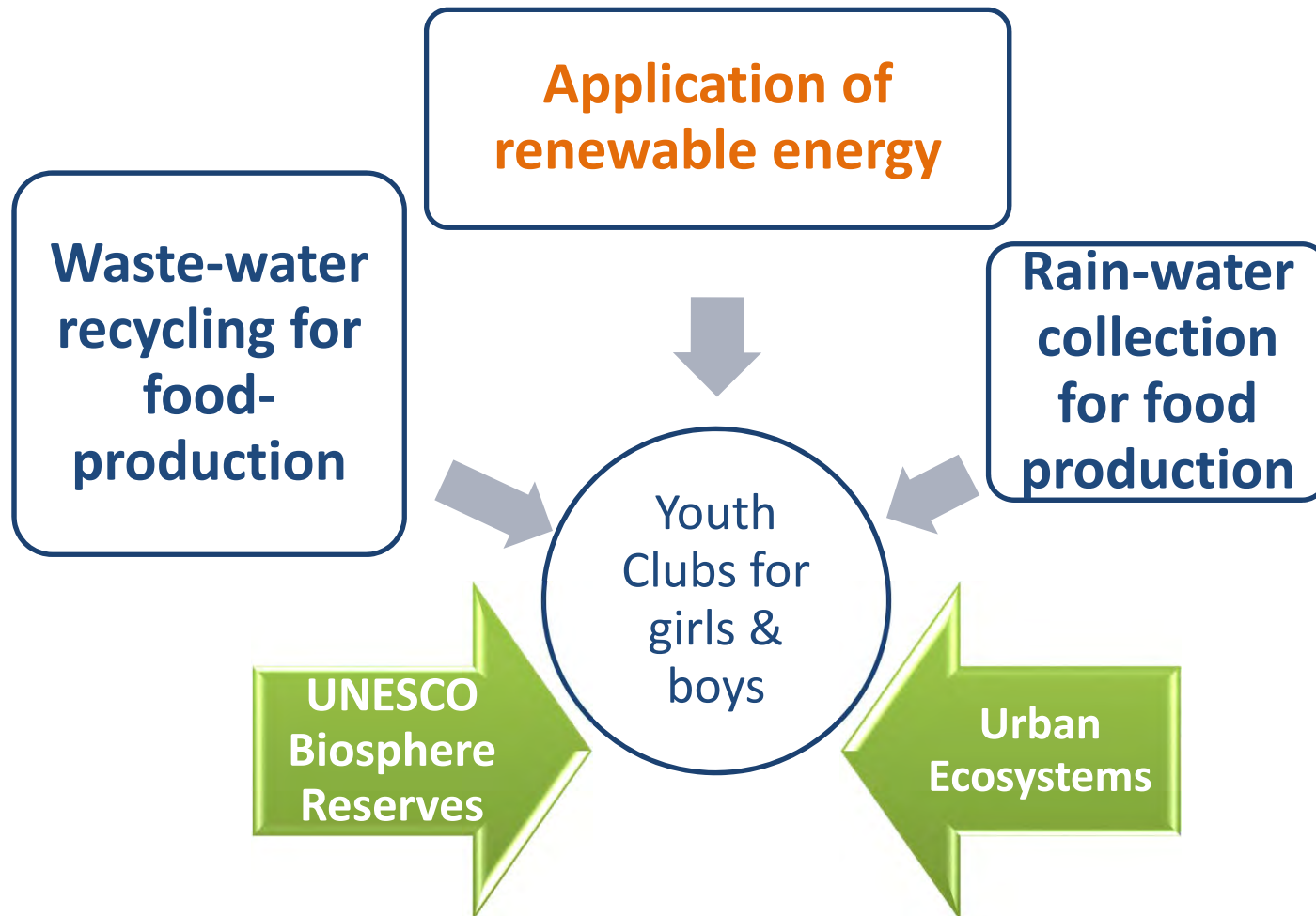


## Scope

1. 1<sup>st</sup> demonstration model: Beza Bezuhan School in Lake Tana BR
2. 2<sup>nd</sup> UNESCO Green Academy in UNESCO World Heritage Site 'Old School of Harar'
3. Bole Preparatory School in Addis Abeba, Capital of Africa
4. St Yared School in Addis Abeba, Capital of Africa
5. Hope College in Addis Abeba, Capital of Africa
6. Sheder Refugee Camp, border area of Ethiopia and Somalia
7. School in Sierra Leone
8. School in Tanzania
9. Spread the idea via students and community via UNESCO Permanent Delegations, National Commission and other vehicles.
10. Establish at least one demonstration model in each African country.

# UNESCO Green Academies

Better Buildings for climate change resilience



Place toilets at high ground of school premises to allow black-water to flow to biogas-digester by gravitation force:

- a. Provide resource for biogas
- b. Prevent human waste from discharge into the open – improved hygienic condition





Biogas-digester receives black-water and produces biogas to supply fuel to the school-kitchen



DEC 2015



86000 liter tank for  
rain-water  
(DEC 2015)



**Field for production of food for human consumption throughout the year, even in the dry season**

**Establish science-education clubs so the kids will learn by practice and maintenance**

**DEC 2015**

March 2016



**March 2016: the tank is already almost full**



March 2016



March 2016



**UNESCO Green Academy will target the school inside the camp and host community**

- It will significantly enhance water-availability and reduce costs
- It will enhance environmental and climate knowledge and allow for multiplier projects
- It will engage refugees to become active in meaningful activities



**Sheder Refugee Camp on  
Ethiopian/Somalian border  
hosting 15000 people:  
14 liter of water/person/day**





## Assumptions

- 6 buildings
- Roof size 15m x 8m each
- Total roof size: 720 m<sup>2</sup>
- Average annual precipitation: 712 mm / m<sup>2</sup>
- >500,000 liters of water

## Conclusions

- Larger roof size will allow to harvest millions of liters of water
- Tank sizes, numbers and costs are the limiting factors
- A serious contribution to SDG 6 clean water and sanitation
- A serious global contribution SDG 11 sustainable cities and communities

**Engage the community – involve the women**





Engage the community –  
involve the men



**Engage the youth in  
YOUTH-CLUBS  
Foster science-education  
Foster peace-education**

**Thank you for your interest**