



The PeoplesHome Project: Solar Housing and Energy Project

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TANZANIA
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SOLAR HOUSING & ENERGY PROGRAM

Let the Sun
work for you



DRIVING ECONOMIC CYCLES



TRANSNATIONAL PROJECTS FOR
GOVERNMENT ASSISTANCE & PROGRESS

TRANSFORMING DEVELOPING COUNTRIES

in Rural Areas



**50 MW ENERGY
1000 HOUSES
1000 JOBS**



**ENERGY & WATER
CAPACITY BUILDING
KNOW-HOW TRANSFER
HOUSING & INFRASTRUCTURE**

PHILOSOPHY & ORGANISATION

We have formed a transnational organisation for government assistance & progress in emerging & developing countries.

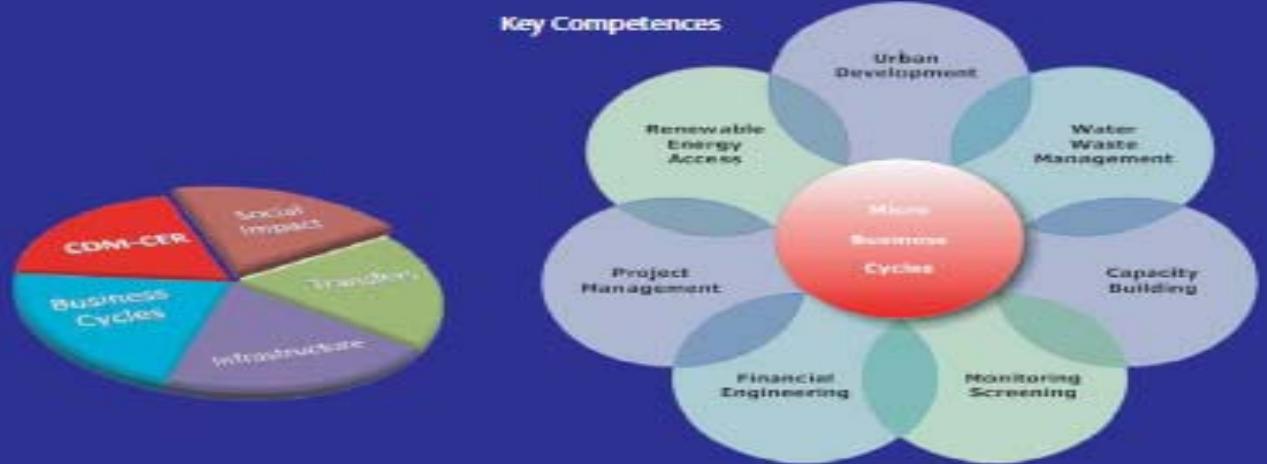
A team of experienced persons from economy, finance, politics, science & culture established this organisation in order to globally foster a new way of social entrepreneurship & global economic cooperation.

We are initiating, planning, implementing & monitoring innovative & bankable projects for sustainable & climate-friendly development.

External monitoring & quality management combined with a high transparency are decisive key factors in every single project development.

In order to assure the integrity and credibility of our actions, we have developed a **CODE of CONDUCT** binding for every partner to work within our projects - a pre-condition for good governance & social & ethic thinking .

WE CAN BREAK POVERTY PROGRESSION NOW!



The Village is the Power Plant



KEY COMPETENCES



SOLAR HOUSING & ENERGY PROGRAM



We are supporting & initiating mid- to long-term governmental projects for the transformation of developing & emerging countries to head one of the most urgent problems of today: the rural exodus caused by lack of perspectives for the people & the corresponding emergence & extension of informal settlements in the cities with all the inherent follow-ups.

STANDARD PACKAGE SHEP

1000 Solar Houses

- Upgrading of Townships
- Enhancement of Villages
- Erection of Newtowns
- Design of Tourism Resorts

50 MW Renewable Energies

- Solar photovoltaic Power
 - optional: Wind Power
 - roof-top & Power Parks

Minimum Size of Sub-Projects

- 200 Solar Houses
- 10 MW Renewable Energy
- Plot Size total 40 ha

Basic Infrastructure

- Community Building
 - Primary School
 - Health Station
 - Municipal Utility
 - Sports Facilities

Qualification Program

**ENERGY & WATER
CAPACITY BUILDING
KNOW-HOW TRANSFER
HOUSING & INFRASTRUCTURE**

PLANNING & INFRASTRUCTURE

Our organisation is incubating urban development & energy + water projects in Africa, Asia & South America. We are using approved state-of-the-art technologies in every field of action & adapt our techniques to the local resources & economic situation of the people.

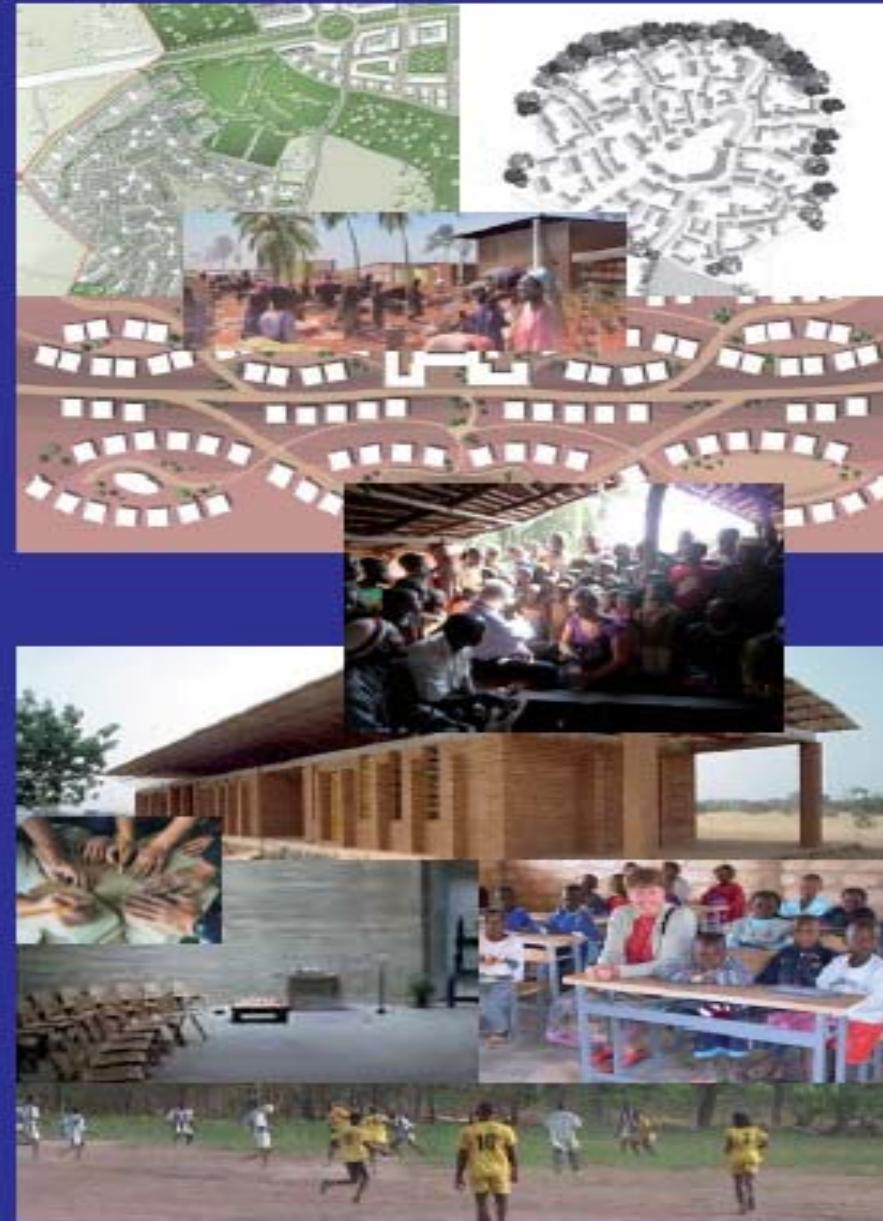


Participatory planning is our principle measure to meet the peoples needs & to respect their culture & tradition. Local beneficiaries & authorities are involved in every step of the planning & realization process in order to create high acceptance & sustainability for our projects.

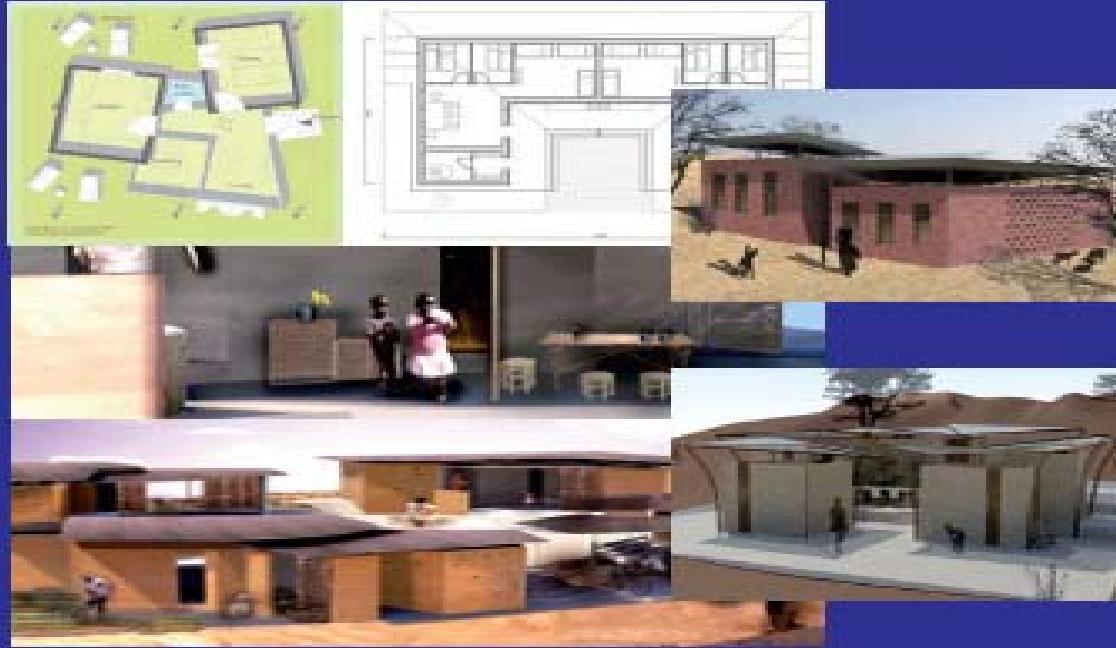
Basic public services for education, health, hygiene & sports are integrative parts of our **SOLAR HOUSING & ENERGY PROGRAM SHEP**.

Through this holistic approach we can guarantee long-term perspectives & prosperity for every inhabitant of our settlements.

A HOME BELONGS TO HUMAN NEEDS!



CONSTRUCTION & DESIGN



We are using eco-friendly materials & technologies as well as Renewable Energies only in order to protect our childrens' planet!



FLOOR DESIGN & STANDARDS

- Living Space of 50 m²
- 2 - 3 Bedrooms
- Standard Doors & Windows
- Stone Floors & plastered Walls
- Interior Kitchen
- Interior Bathroom (Shower/Toilet)
- Standard Electrics incl. Sockets
- flexible Designs
- subsequent Extensions possible

FACADE DESIGN

- Facing Brickwork
- Colored Plaster
- Wooden Cladding
- Clay Covering

CONSTRUCTION TECHNIQUES

- Conventional Brick, Block & Concrete Works
- optional: Innovative Technique for local Production of Bricks, Blocks & Form Elements using indigenous organic Additives

RENEWABLE ENERGIES & WATER TREATMENT

SOLAR POWER (basic energy source)

- Innovative roof-top Megaslate
- Compound Roof & PV-Module Construction for Houses
- High Efficiency poly-cristalline PV Modules for Power Parks

WIND POWER (additional energy source)

- Innovative small-scaled Wind Generator (Concentrator) 1 kW
- High Efficiency medium-scaled Wind Generator (Rotor) 100 kW

ON-GRID SOLUTIONS

- up to 50 MW per Power Park

OFF-GRID SOLUTIONS

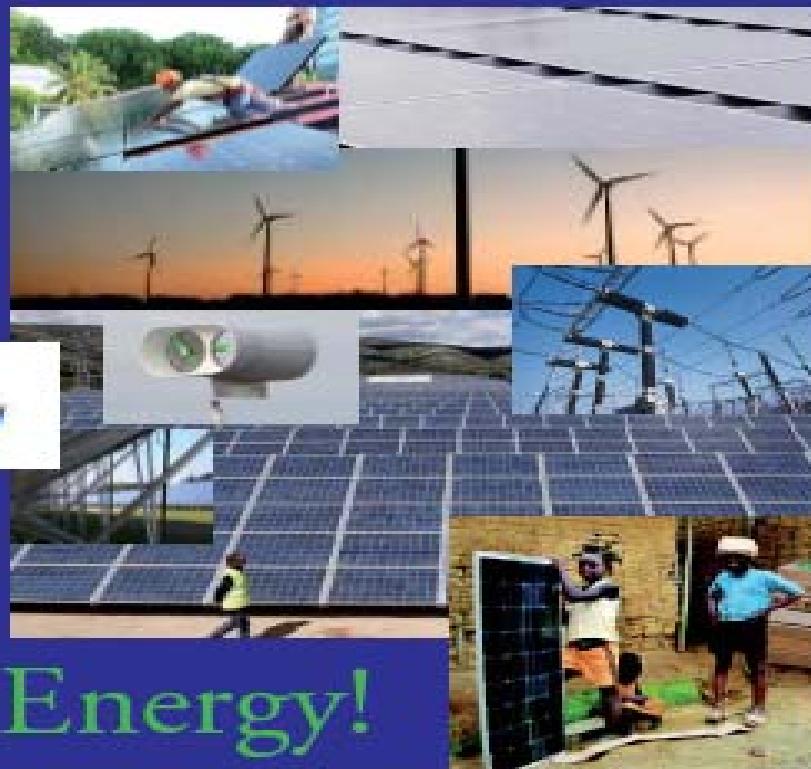
- up to 10 MW per Power Park

WATER TREATMENT

- Drinking Water Purification
- Grey Water Recycling
- Black Water Recycling
- optional: Urine Diversion Toilets

All systems listed above are controlled & managed by a centralized municipal utility. This public building will be used for special water & energy services as well as for on-site training for maintenance, energy efficiency & water saving.

ACCESS TO ENERGY CREATES PROSPERITY!



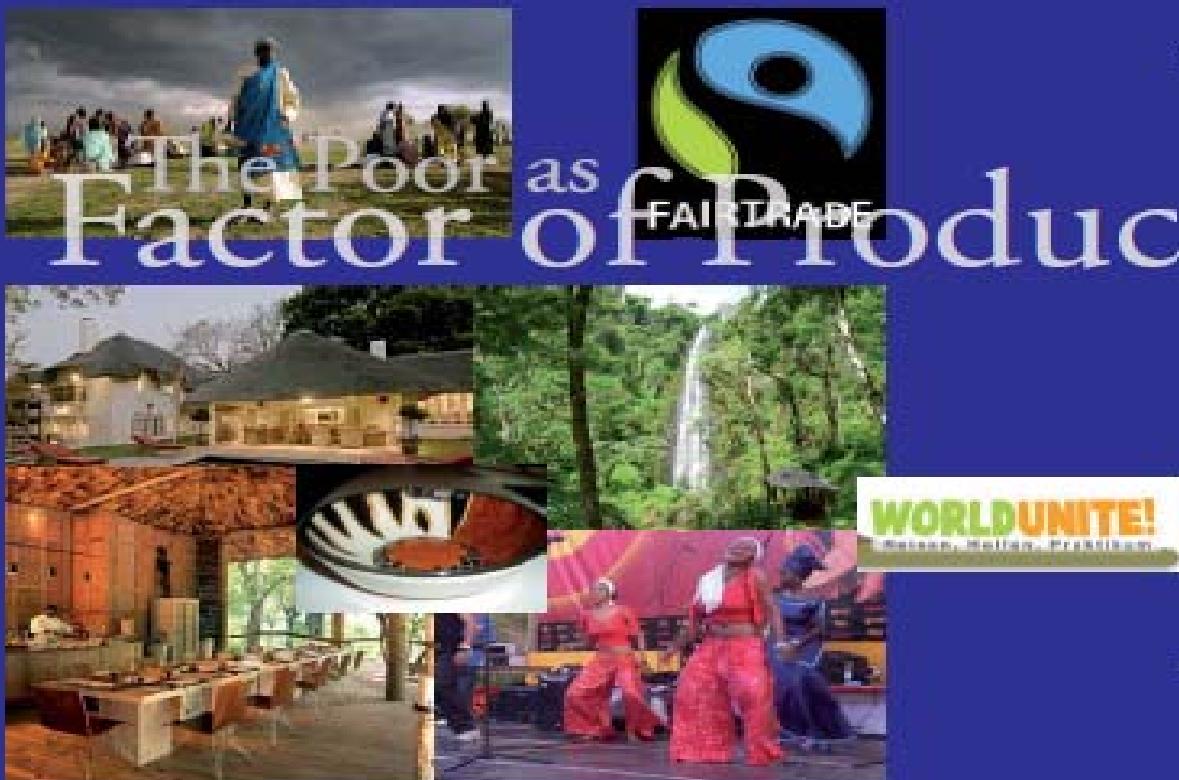
Clean Energy!



CAPACITY BUILDING & ECONOMIC CYCLES



In collaboration with German & concerning national institutions for capacity building we are developing specific qualification programs for every single project. Thus we can provide qualification & empowerment to the people living in our project areas. These measures are generally accompanied by an international university cooperation to provide scientific know-how transfer & empowerment.



We create & guarantee job opportunities for the indwellers through installing & fostering micro-economic business cycles in the following fields:

- small trade
- arts & crafts
- eco-tourism
- education & health
- ecological agriculture
- construction business
- refinery of local raw materials
- administration & management

We especially focus the boost of the local economy on the **ECO-TOURISM** sector as it is the fastest growing industry in developing countries & shows increase rates between 10 - 20 % per year. So we can help to combine growing prosperity & environmental protection in the concerning nations.

RESEARCH & TEACHING PROJECT MWAMGONGO



Meeting House_Perspektiven



KIGOMA DIESEL POWER PLANT INFORMATION

- It is an isolated grid
- Installed capacity of 12.5 MW
- Available capacity of 9.2 MW
- Maximum demand of 4.5 MW
- System Voltage of 11 KV
- Frequency 50 Hz
- High voltage total distance 82.5 km
- Low voltage total distance of 200 km
- 83 distribution transformers 13.125 MVA
- Energy usage for 6 months (Jan-June) = 10.6 million KW HR
- Total fuel usage by volume for 6 months (Jan-June) = 2.5 million litres of diesel and 672,000 litres of gas oil
- Total fuel cost for 6 months (Jan-June) = 5 billion TZS
- Consumer cost of electricity = 187 TZS / KW HR
- Insolation= 6.4 KW-HR/M²/DAY

The proposal is to replace the current power plant with a 100% renewable energy power plant which is cost effective and environmentally friendly. A hybrid (solar/wind) cable car system is proposed to serve as the power grid for Kigoma, Kalinzi, and Burundi.

MPANDA DISTRICT DIESEL POWER PLANT INFORMATION

- It is an isolated grid[4 generators 2 @ 500 KW and 2 @ 640 KW)
- 3% electrified (97% not electrified)
- Installed capacity of 2296 KW
- **Available power of 2MW**
- **Maximum demand of 2 MW (power rationing/ load sharing done)**
- High voltage total distance 25 km
- Low voltage total distance 72 km
- Number of distribution transformers = 29
- Number of HV transformers = 3
- Energy usage for 6 months (Jan-June) = 3.63 GW HR
- Total fuel cost for 6 months (Jan-June) = 5 billion TZS
- Total fuel usage for 6 months (Jan-June) = 1.18 million litres of diesel

The proposal is to have a 9 MW renewable energy power plant – Land area required 20 hectares

CONCLUSION

And also construct 100 homes(each 10 KW)- total of 1 MW with roughly 50 to 100 m² extended roofs for solar PV system - Land area required – 20 hectares - (1000 KW HR annually)

Kalinzi-Mwandiga

An innovative hybrid cable car system with retrofitted Solar PV and automatically adjustable micro wind turbines is proposed for this location. And this would serve as a transportation system from Kalinzi to Mwamgongo and also serve as a power grid linking Kigoma, Kalinzi, and Burundi. The whole goal is to form a virtual power plant that would link these locations using high voltage DC transmission. And another possible scenario is to look into wireless power transmission.

A wind and resource assessment must be done for this location (Kisozi-Kalinzi). Currently, this location experiences nearly constant wind blowing from the east and west. There is a Vodacom tower located on the west side of the road (very well located for taking the measurements) roughly 20 meters in height, which we could use to place the 2 anemometers to measure wind speed from the east and west, through an agreement with Vodacom in return for powering their cellular phone tower using a wind and solar hybrid system. Solar pyranometers and solar pyrheliometers need to be employed in this area for a solar resource assessment.

Thirdly, I believe no construction should be done in the Kisozi-Kalinzi area due to high wind speeds [from physics, force on the structure is directly proportional to the square of the wind speed] and also the terrain of the location is not flat (foundation not stable). There is also a problem of soil erosion in this location. And the almost constant blowing wind is not pleasant for the local people. I believe agro-conservation/environmental methodologies should be employed in this region – a social engineering framework should be developed since it is bordering the Gombe national park to the west.

The Kalinzi Village area or market place needs to be upgraded from a renewable energy and water stand point. The Villagers should be taught about using plants, sand, and stone - local materials to build their houses. They should be taught about energy and water conservation. The schools should be electrified using solar PV systems. Biomass is also another option.

THE RESEARCH PROJECT MWAMONGO

