

# Local Sustainable Solutions-East Africa

English

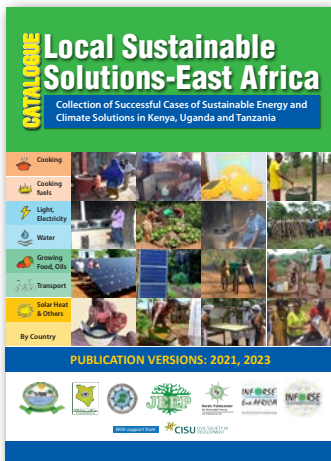
Collection of Successful Cases of Sustainable Energy and Climate Solutions in Kenya, Uganda and Tanzania



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## Brochure: Catalogue of 80+ Local Sustainable Solutions in East Africa

This brochure presents a summary of the **Catalogue of 80+ local sustainable energy and climate solutions in East Africa**, in particularly in **Kenya, Uganda, and Tanzania**. The catalogue is available online as a searchable database, which can be printed as pdf. Printed copies of the 150-page book have also been published. The online version is continuously updated and inputs with new cases are welcome.

The purpose of the **Catalogue** is to popularize *local solutions in support of sustainable energy and development, specifically, best practices in technical solutions and proven financing models.*

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### Bridging the gap of knowledge:

The Catalogue shows established examples of successful tried-and-true local solutions that can help to address challenges related to energy, water, food in East Africa, in climate-friendly and affordable ways.

The solutions reduce consumption of resources, costs, time, and provide healthier environment. For example, efficient cook stoves reduce use of fuelwood, and exposure to smoke and risk of burning. Some have potential to generate income. For example solar driers, greenhouses, and solar powered electric equipment used for shops and workshops. Some of the cases are well known solutions in some areas, while others are undocumented or unfamiliar.



Brochure of the Catalogue: Local Sustainable Solutions in East Africa, 12 pages, 2023.

The Printed Catalogue:  
1st edition 2021 140 pages  
ISBN 978-87-970130-5-2  
2nd edition 2023 148 pages  
ISBN 978-87-970130-6-9  
The Online Catalogue is at:  
[localsolutions.inforse.org](http://localsolutions.inforse.org)

Illustrations in this brochure are from the full Catalogue. The information can be freely used, but please cite the source.

The Catalogue was developed in the framework the "East African Civil Society for Sustainable Energy & Climate Action" (EASE & CA) Project in 2019-23, which is a civil society cooperation project among members of INFORSE supported by Civil Society in Development (CISU), Denmark.

The Catalogue's collection of 80+ cases is a result of editing work and inputs from the Project's Partners, which are Uganda Coalition for sustainable Development (UCSD) and Joint Energy and Environment Projects (JEEP) in Uganda, TaTEDO - Sustainable Energy Services Organization in Tanzania, SusWatch Kenya, and Nordic Folkecenter for Renewable Energy (NFRE) in Denmark, along with the International Network for Sustainable Energy (INFORSE), INFORSE-Europe, and INFORSE East Africa.

In the Catalogue, the sustainable solutions are organised in **7 categories**, which are further subdivided into **subcategories**, and sorted by **countries**.



	<b>Cooking:</b> improved efficient cookstoves reducing fuelwood used for both household and institutions such as schools; solar cookers; hay boxes/fireless basket cookers; electric pressure cookers.
	<b>Cooking Fuels:</b> improved kilns; briquettes; tree growing.
	<b>Light &amp; Electricity:</b> solar lanterns, solar home systems and community mini grids powering: light, refrigerator, TV, mobile phone, production equipment, water pump.
	<b>Water:</b> rainwater harvesting and use; improved water wells and pumps; water saving, irrigation.
	<b>Growing Food:</b> kitchen gardening; organic vegetables for market; products from trees.
	<b>Transport:</b> bicycles for going to school, work, or carrying goods; electric 2/3-wheelers; and animals.
	<b>Solar Heat &amp; Others:</b> solar water heaters; solar food dryers.

**Improved efficiency** reduces the demand on fuels e.g. improved cookstoves need less fuel wood, efficient household equipment, LED lamps need less electricity etc. **The solutions are readily available worldwide.** Each solution is described with **3 pictures** and a **fact sheet** on the advantages, limitations, and details, where can you find more information (See box).

The Catalogue is to be a **'move from Paper to Action'** with the *hope* that it will be **valuable source of information and inspire all** to choose and to promote these solutions, in view of the global energy, biodiversity, and climate crises.

*When people adopt these solutions, this will bring lasting **positive** changes for them.*

**Let's act for a better environment, improved livelihoods, to end poverty, and to stop climate change.**



The solutions contribute to several **UN Sustainable Development Goals (SDGs)**, particularly:

SDG 13 (climate action), SDG 7 (clean energy), SDG 1 (poverty), SDG 5 (gender), SDG 6 (water), SDG 2 (hunger, food), and implementations of

Nationally Determined Contributions (NDCs) and of Long-term low Emission Development Strategies (LEDS) under the Paris Agreement, as well as national activities to implement SDG 7 (clean energy), including the Sustainable Energy for All (Se4ALL) strategies.

**A FACT SHEET of a Solution includes the following:**

- 3 Pictures

**Descriptions:**

- Advantages of the solution
- Savings (per day/production)
- Costs (in money and in own time to construct)
- Maintenance needed
- Resources needed in use
- Problems and limits
- Where and how can you get it or make it?
- Which skills needed to produce, install, maintain, use?
- Climate effect
- Why is it successful?
- What financial model, policies and strategies helped the success?
- Source for more information



# Cooking



## Improved Household Firewood Cookstoves

- Okoa V5 Efficient Household Firewood Stove (Tanzania)
- Rocket Lorena Two-Pothole Stove (Uganda)
- Rocket Stove by Caritas, Kitui (Kenya)
- Shielded Firewood Cookstove (Uganda)
- Upesi Stove & Aniga Energy Efficient Cookstoves (Kenya)

## Improved Household Charcoal Cookstoves

- Efficient Household Charcoal Stove / SeTa-mkaa (2<sup>nd</sup> generation) (Tanzania)
- Improved Charcoal Baking Oven (ICBO) (Tanzania)
- Jiko Bora (Tanzania) & Burn Jikokoa (Kenya)

## Improved Household Firewood & Charcoal Cookstoves

- Jiko Tosha & Wisdom Stove (Malaika Jiko, MJ/M2) (Kenya)
- KIDT Briquettes Energy Saving Stove (Tanzania)





# Cooking



## Improved Institutional Firewood Cookstoves

- SeTa Improved Institutional Firewood Cookstoves (SeTA-IIFC) (Tanzania)
- Efficient Fish-Frying Firewood Stove (SAFISTO) (Tanzania)
- Institutional Improved Cookstoves (ICS) by JEEP at Schools (Uganda)

## Biogas for Cooking

- Blue Flame Biogas Digester (Kenya)
- Flexi Biogas / FlexiTech & Takamoto Biogas (Kenya)
- Fixed Dome Biogas Plant (Tanzania & Uganda)
- Biogas for Cooking at Schools (Uganda)

## Solar Cookers, Hay Boxes, E-Cookers

- Fireless Basket Cooker / Flask (Hay Box) (Uganda)
- Solar Box Cooker & Parabolic Reflector Solar Cookers (Uganda)
- Haines-Copenhagen Solar Cookers (Kenya)
- Solar Cooker Cookit & Solar Box Oven (ULOG) (Kenya)
- Efficient Electric Pressure Cookers (Tanzania)





# Cooking Fuels



## Improved Charcoal Production Kilns

- Improved Basic Earth-Mound Kiln (IBEK) (Tanzania)
- Portable Metal Kiln (Kenya)

## Briquettes of Charcoal, Sawdust, and Other Fuels

- Charcoal Briquettes (Handmade) (Uganda)
- Briquette Making Manual Machine.
- Maa Briquette (Kenya)
- Coconut Husks and Charcoal Dust Briquettes (Tanzania)
- Blue Box Toilet Waste Sanivation Briquettes (Kenya)
- KIDT Rice Husks Charcoal Briquettes (Tanzania)

## Tree growing

- Fuelwood - Planting (Uganda)





# Light, Electricity



## Solar Lanterns

- Little Sun Solar Lamp (Uganda)
- Solar Lamp, Mobile Charger from Sunking, D.light (Kenya, Uganda, Tanzania)

## Solar Home Systems

- Gaitheri Secondary School Solar PV Roof (Kenya)
- M-Kopa 600 Solar System with TV, Light (Kenya)
- Solar-PV-Powered Refrigerator (Uganda)
- Kimaroroni Solar Home System (Tanzania)
- Sunking Solar Home Systems powering lamps, mobiles, TV (Tanzania, Kenya, Uganda)

## Renewable Energy Mini-grids

- Kibindu Gasifier and Solar Hybrid Mini-Grid (Tanzania)
- Mpale Solar Micro Grid (Tanzania)
- Small Wind Turbine - Do-it-yourself model





# Water



## Rainwater Harvesting and Use

- Roof Rainwater Collection (Uganda)
- Polythene lined run-off water pond (Uganda)

## Improved Water Wells and Pumps

- Improved Shallow Wells (Uganda)
- Improved Solar-Powered Shallow Wells (Uganda)
- Rainmaker Solar-Powered Water Pump (Kenya)

## Water Saving - Irrigation

- Solar Powered Drip Irrigation of Mango (Tanzania)
- Greenhouse and Drip Irrigation Farming (Tanzania)







# Growing Food, Oils



## Kitchen Gardening

- Bag Gardening (Kenya)
- Keyhole Home Gardening (Uganda)
- Kitchen Garden (Uganda)
- Food Pillars using Waste Water (Uganda)

## Organic Vegetables for Market

- Mlango Farm (Kenya)

## Products from trees

- Ficus Natalensis Agroforestry Systems (Uganda)
- Soap and Lotion Making from Natural Tree Oils (Uganda)





# Solar heat & others



## Solar Water Heaters

- Direct Solar Water Heater (Kenya)

## Solar Food Dryers of Vegetables, Fruit, Spices, Fish

- Semi-industrial Solar Food Dryer (Tanzania)
- Grekkon Limited Solar Food Dryer (Kenya)
- JEEP Solar Food Dryer (Uganda)
- Kawanda Solar Food Dryer (Tanzania)

## Others

- Sparky Charcoal Food Dryer (Uganda)





# Transport



## Bicycles

- Bicycles (Uganda)
- Buffalo Bicycles (Kenya)
- Bicycles (Tanzania)

## E-Bikes / E-Motorbikes

- Electric 3-Wheelers (Tanzania)
- E-Motorbikes/ Bikes (Uganda, Kenya)

## Animals

- Oxen (Uganda); Donkey (Kenya)





**80+**

**Local Sustainable Solutions in East Africa**

[www.localsolutions.inforse.org](http://www.localsolutions.inforse.org)

**GLOBAL/REGIONAL:**

**INFORSE - International Network for Sustainable Energy**  
**INFORSE-East Africa c/o TaTEDO, Tanzania**  
 Web: [www.inforse.org](http://www.inforse.org) [www.inforse.org/africa](http://www.inforse.org/africa),  
[www.inforse.org/africa/EASE.htm](http://www.inforse.org/africa/EASE.htm)

**TANZANIA:**

**TaTEDO - Tanzania Sustainable Energy Services Organization**  
 Web: [www.tatedo.or.tz](http://www.tatedo.or.tz)

**UGANDA:**

**UCSD - Uganda Coalition for Sustainable Development**  
 Web: [www.ugandacoalition.or.ug](http://www.ugandacoalition.or.ug)  
**JEEP - Joint Energy and Environment Projects**  
 Web: [www.jeepfolkecenter.org](http://www.jeepfolkecenter.org)

**KENYA:**

**SusWatch - Sustainable Environmental Development Watch**  
 Web: [www.suswatchkenya.org](http://www.suswatchkenya.org)

**DENMARK:**

**Nordic Folkecenter for Renewable Energy**  
 Web: [www.folkecenter.net](http://www.folkecenter.net)  
**INFORSE-Europe**  
 Web: [www.inforse.org/europe](http://www.inforse.org/europe)

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