

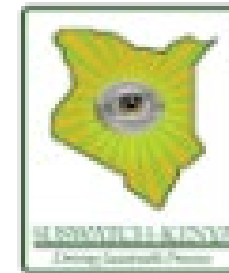
Local Climate Solutions towards 100% Renewables
- Gender Matters



ONLINE Catalogue for Local Sustainable Solutions **in East Africa - Tanzania, Uganda, Kenya**

Judit Szoleczky

International Network for Sustainable Energy - INFORSE



Document more than 80+ practical climate local solutions that solve energy, water, food insecurity challenges faced by local communities

CATALOGUE: LOCAL SUSTAINABLE SOLUTIONS IN EAST AFRICA



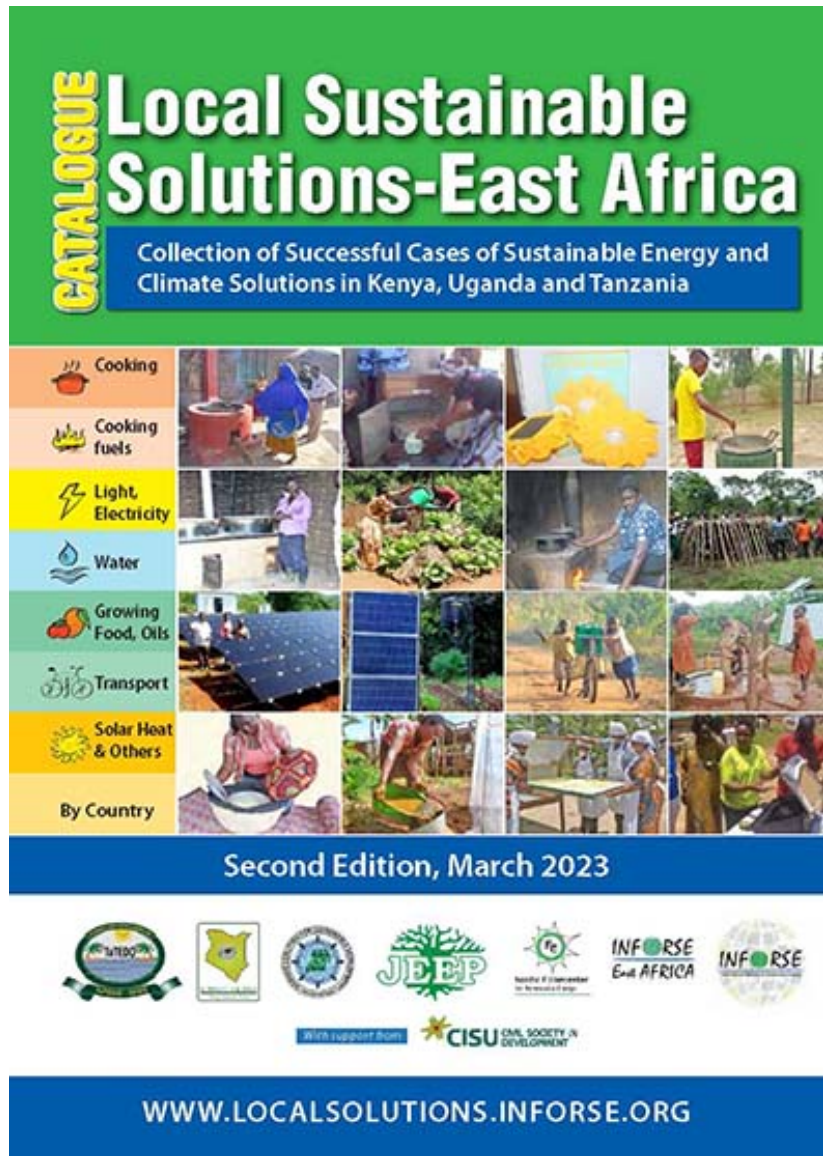
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Catalogue 80+ Local Sustainable Solutions in East Africa, Kenya, Tanzania, Uganda

- www.localsolutions.inforse.org
pdf download, offline and in print
<https://inforse.org/africa/EASE.htm>

Brochure: Swahili, Luo, Luganda & Runyakitara (12 page)




Catalogue for Local Sustainable Solutions in East Africa

www.localsolutions.inforse.org


 Cooking	
 Cooking fuels	
 Light, Electricity	
 Water	
 Growing Food, Oils	
 Transport	
 Solar Heat & Others	
By Country	

 **Cooking**


- Improved cookstoves for firewood
- Improved cookstoves for charcoal
- Cookstove Biogas
- Solar cookers, hay boxes, e-cookers

 **Cooking fuels**


- Charcoal making
- Brickets of charcoal, sawdust and others
- Fuelwood planting

 **Light, Electricity**


- Light solar lanterns
- Solar home system
- Renewable energy minigrids and m

 **Water**


- Rain-water harvesting and use
- Improved wells
- Water savings

 **Growing food, oils**

- Kitchen gardening
- Organic vegetables for market
- Agro-forestry, & products from trees

 **Transport**

- Bicycles

 **Solar heat & others**

- Solar drying
- Solar water heating



Rever stove by Caritas department/Catholic Church in Kenya/Kenya

Kenya



Liquid stove

Kenya



Reo Tohu

Kenya



Safe Improved Traditional Forward Cook-stove (SITF-CF)

Tanzania



Home / View case

Download PDF

Country:

Uganda

Why to choose this solution?

The shielded cook stove saves firewood compared to the ordinary three-stone cook stove and also produces much less smoke. The Shielded Cook Stove makes cooking easier since one does not need to keep blowing fire and monitoring the burning all the time. The Shielded Cook Stove can also be designed in such a way that it uses both charcoal, briquettes and firewood such that it does not limit the fuel sources in the local communities. It is movable whereby one can cook within the kitchen or outside the kitchen and also minimises accidents and burns since it is insulated and organised.

Savings per day or production:

Catalogue for Local Sustainable Solutions in East Africa

Catalogue details

- Why to choose the solution
- Benefits
- Costs & Lifetime
- Maintenance needs
- Barriers, Limitations
- Why is it successful
- Contribution to climate effect
- Financing & business models
- Link to short video on construction and use
- More Info & Sources

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Cooking



Cooking fuels



Light, Electricity



Water



Growing Food, Oils



Transport

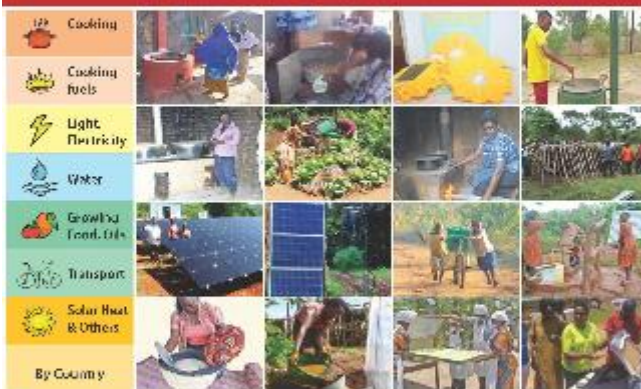


Solar Heat & Others

By Country

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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80+ Local Sustainable Solutions in East Africa
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GLOBAL/REGIONAL: INFORSE - International Network for Sustainable Energy INFORSE East Africa c/o TATEDO, Tanzania Web: www.inforse.org / www.inforse.org/afica www.inforse.org/afica/EASE.html	TANZANIA: TATEDO - Tanzania Sustainable Energy Services Organization Web: www.tatedo.or.tz
UGANDA: UCSD - Uganda Coalition for Sustainable Development Web: www.ucsd.or.ug JEEP - Joint Energy and Environment Projects Web: www.jeeptanzania.org	KENYA: SunWatch - Sustainable Environmental Development Watch Web: www.sunwatchkenya.org
DENMARK: Nordic Folkecenter for Renewable Energy Web: www.folkecenter.net INFORSE-Europe Web: www.inforse.org/europe	1st Edition 2021 ISBN: 978-87-970130-5-2 2nd Edition 2023 ISBN: 978-87-970130-6-9

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In the Catalogue, the sustainable solutions are organized in 7 categories, which are further subdivided into subcategories, and varied by countries.

- Cooking:** Improved efficient cookstoves including the waste used for both households and institutions such as schools; solar cookers; hay boxes/fireless basket cookers; electric pressure cookers.
- Cooking Fuels:** Improved stoves; biochar; tree growing.
- Light & Electricity:** solar lanterns, solar home systems and community mini grids; power lines; light, refrigerator, TV, mobile phone, production equipment, water pump.
- Water:** rainwater harvesting and use; improved water wells and pumps; water saving, in garden.
- Growing Food:** kitchen gardening, organic vegetables for market, products from farms.
- Transport:** bicycles for going to school, work, or carrying goods; electric 2/3-wheelers; electric bicycles and e-malls.
- Solar Heat & Others:** solar water heaters; solar food dryers.

Improved efficiency reduces the demand for 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 a valuable source of information and inspire all to discuss and to promote these solutions, in view of the global energy, poverty, 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 agriculture), and SDG 11 (sustainable cities and communities).

The solutions also contribute to National Determined Contributions (NDCs) and to Long-term Low Emission Development Strategies (LLEDS) 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

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Local Sustainable Solutions-East Africa
 A Collection of Successful Cases of Sustainable Energy and Climate Solutions in Kenya, Uganda and Tanzania

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 particular in Kenya, Uganda, and Tanzania. The catalogue is available online as a searchable database, which can be printed as pdf. Printed copies of the 130-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 produce local benefits. 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 mobile phone charging. 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 pp, 2023.

Printed Catalogue:
 1st edition 2021, 130 pp, ISBN 978-87-970130-5-2
 2nd edition 2023, 148 pp, ISBN 978-87-970130-6-9

Online Catalogue:
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 of the "You & Green Our Society for Sustainable Energy & Climate Action" (YOSA) a CSO Project in 2019-23, which is a civil society cooperation project among members of INFORSE supported by Civil Society Development (CSD), Denmark.

The Catalogue's collection of 80+ cases is a result of collating work as a multi-partners Project Partners, which are Uganda Coalition for Sustainable Development (UCSD) and Joint Energy and Environment Projects (JEEP) in Uganda, TATEDO - Tanzania Sustainable Energy Services Organization in Tanzania, SunWatch Kenya, and Nordic Folkecenter for Renewable Energy (NFCE) in Denmark, along with the International Network for Sustainable Energy (INS-E), INFORSE-Luxembourg, and INFORSE East Africa.



Cooking



Improved Household Firewood Cookstoves

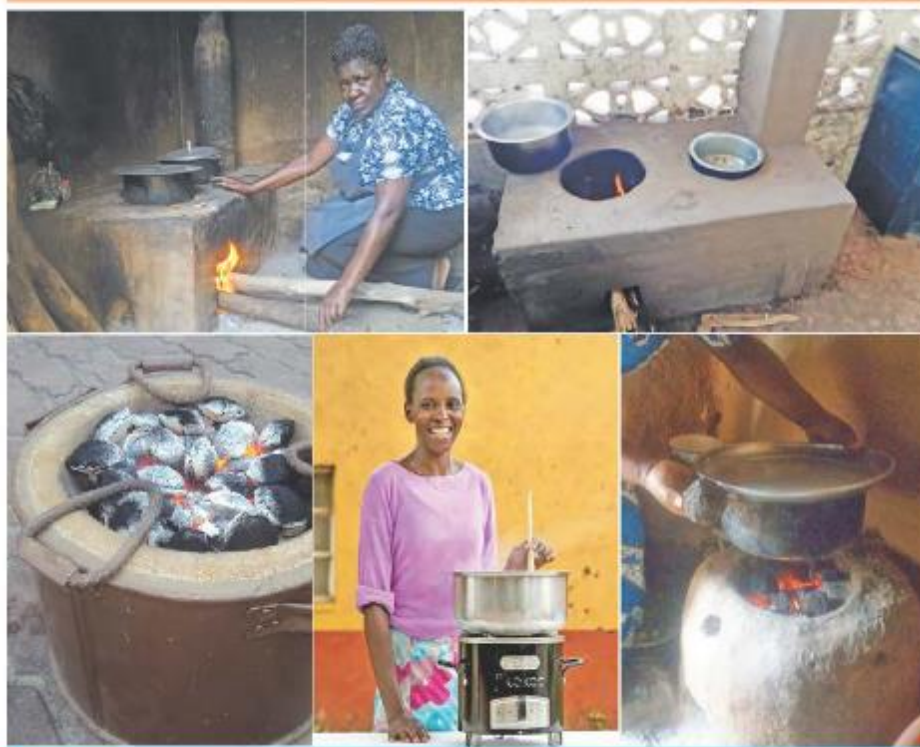
- Okoa V5 Efficient Household Firewood Stove (Tanzania)
- Rocket Lorena Two-Pothole Stove (Uganda)
- Rocket Stove by Caritas, Kitui (Kenya)
- Shielded Firewood Cookstove (Uganda)
- Upesi Stove & Aniga Energy Efficient Cookstoves (Kenya)

Improved Household Charcoal Cookstoves

- Efficient Household Charcoal Stove / SeTa-mkaa (2nd 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, M1/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 (Uganda)
- Maa Briquettes (Kenya)
- Coconut Husks and Charcoal Dust Briquettes (Tanzania)
- Blue Box Toilet Waste Sanitation 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

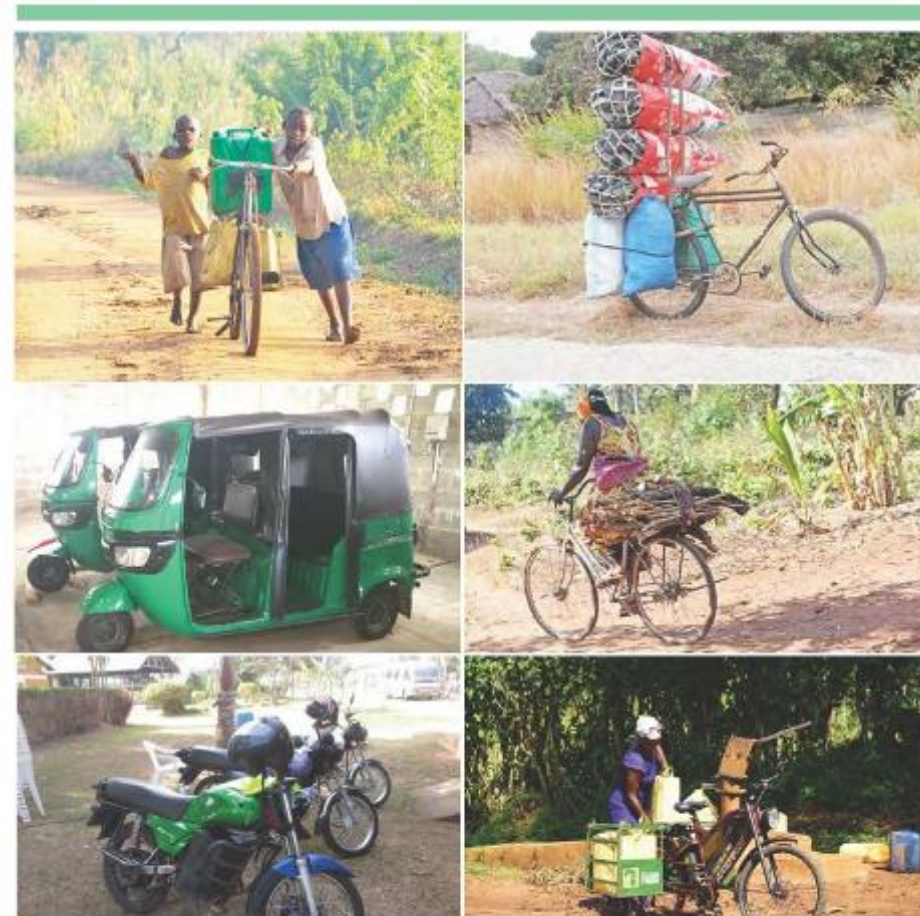
- Bicycles (Uganda)
- Buffalo Bicycles (Kenya)
- Bicycles (Tanzania)

E-Bikes / E-Motorbikes

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

Animals

- Oxen (Uganda); Donkey (Kenya)



Why Local Sustainable Solution is Important?

- **Local sustainable and affordable energy solutions** play a **key role** in supporting the transition towards more sustainable energy systems to population most widely affected by **energy poverty**.
- Globally, 733 million people are without access to electricity, 80 % of them in Africa.
- 2.4 billion people do not have access to clean cooking, 30% are in sub-Saharan Africa.
- Heavy reliance on traditional fuel sources have environmental effects, and health hazards.
- Small-scale and locally based sustainable energy projects are recognized as important forms of development assistance for reaching the energy poor and contributing to reduced GHG emissions.



Replacement of inefficient with efficient stove reduce amount of fuelwood consumption by more than half

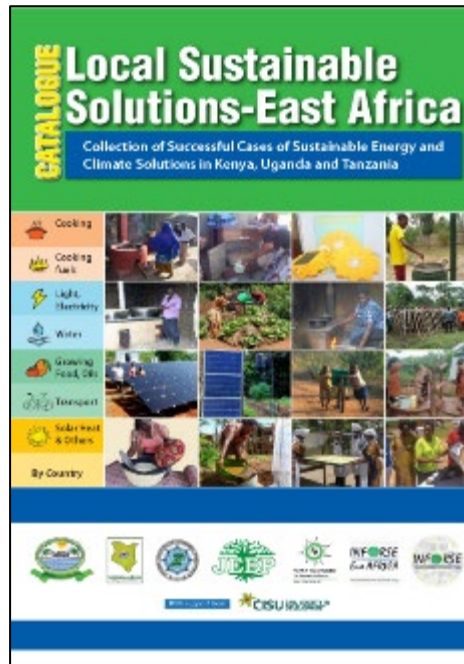
Good News: Local Sustainable Solutions are Important

- Local sustainable energy solutions are important for **climate targets** and is a **crucial** in reducing poverty in developing countries
- Local solutions provide **opportunities for small business activities**
- Local solutions contribute to **improving the living conditions of local community.**



THANK YOU

Catalogue: www.localsolutions.inforse.org



UNFCCC COP29 SIDE EVENT Blue Zone
20/11 2024 11:30-13:00, SE Room 2



Local Climate Solutions towards 100% Renewables - Gender Matters

More: www.inforse.org/cop29.php