SUNGARI

(MAY 2022 – APR 2024)

MMANTSAE DIALE

UNIVERSITY OF PRETORIA

LEAP-RE

Long-Term Joint EU-AU Research
and Innovation Partnership on Renewable Energy

Pillar-1 project

The LEAP-RE project has received funding from the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement 963530.

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Consortium

1. ***Agrartechnik Witzenhausen, University of Kassel (Germany)***
2. ***Simply Solar Technology Consulting GbR (Germany)***
3. ***University of Pretoria (South Africa)***
4. ***University of Limpopo (South Africa)***
5. ***University of Lome (Togo)***
6. ***University of Greenwich (UK)***

Aim of the project

*The **SunGari** project aims to develop a Modern Energy Cooking Service (MECS) based on solar cooking (photovoltaics and concentrated solar power) for **Gari** processing in **West Africa**.*

Relevance vs MARs

(100 words max Arial 20)

Explain which MARs are adressed and specific objectives of MARs

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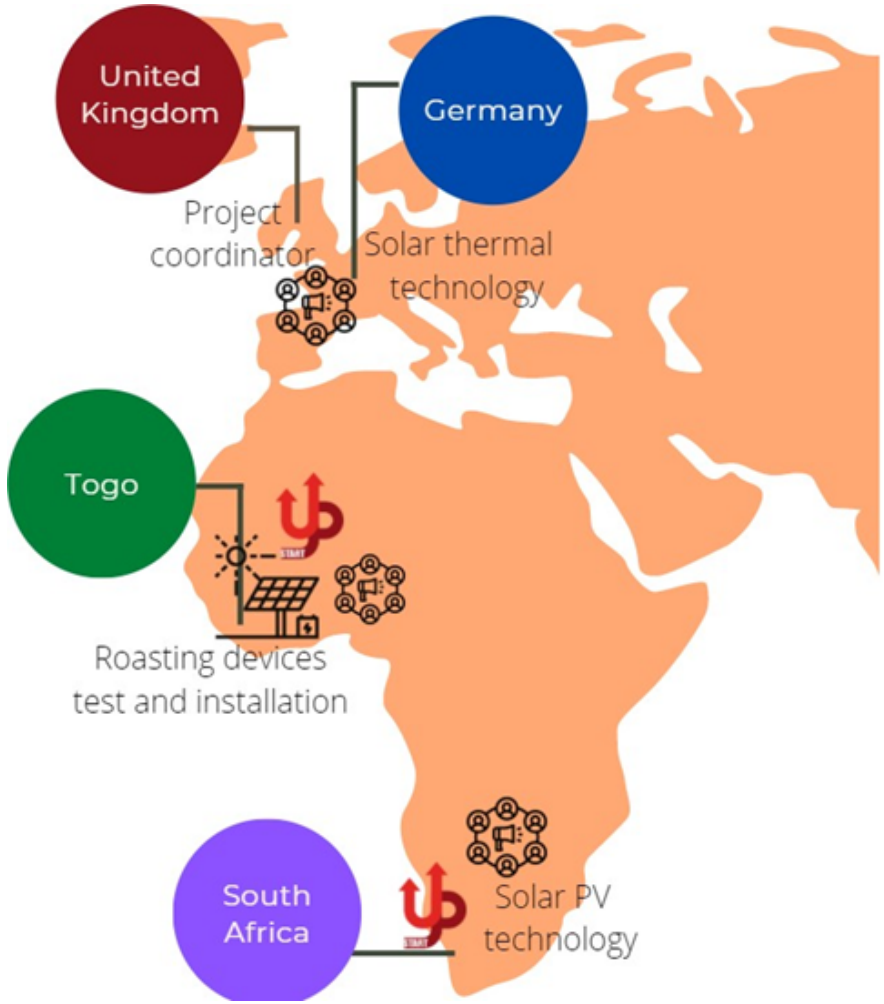

PROJECT SUNGARI

A TRANSCONTINENTAL PARTNERSHIP ON RENEWABLE ENERGY

OBJECTIVE

Co-design and and develop **transferable and scalable** solar powered cooking device for gari roasting .

IMPACT

- SDG 2: Good health and wellbeing.
- SDG 7: Affordable and clean energy.
- SDG 13: Climate action (reduced GHG).
- SDG 9: Industrial innovation.
- SDG 5: Gender equality.
- Africa-Europe long term partnership.
- Establishing SunGari startup.

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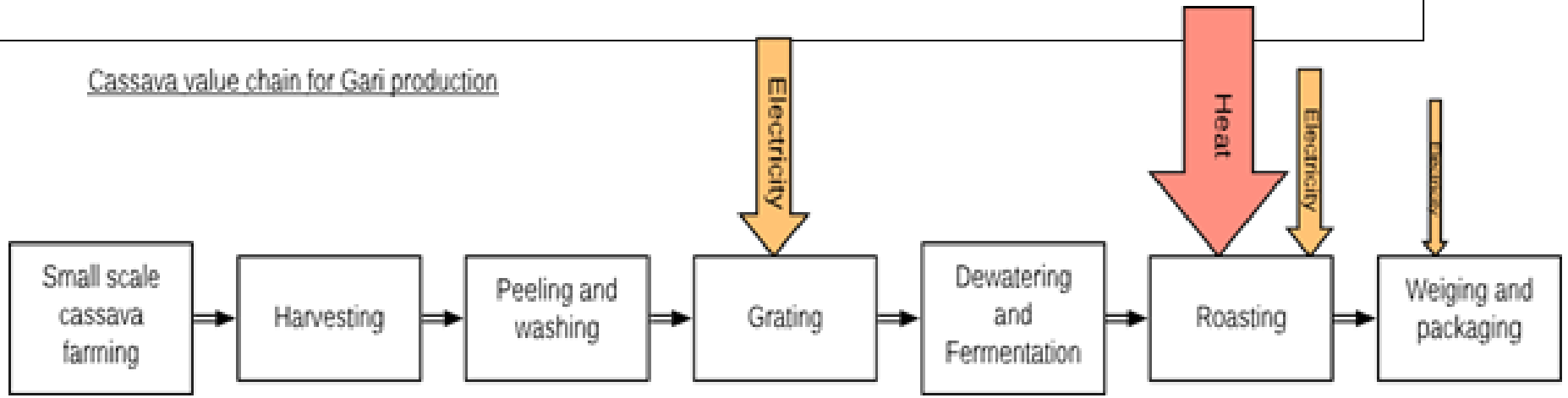
1) Engage with Gari processing units (demo sites in Togo) at the domestic and SME (Small and Medium) level to conduct **temperature and energy optimisation** for comparative analysis.
2) **Design, construction, and performance evaluation** of three types of solar Gari roasting devices.
3) Undertaking a **socio-economic analysis (including financial feasibility and ease of handling/operation) and marketing strategy for SunGari** devices.
4) Training of cassava processing equipment manufacturers for local regional (West Africa) capacity building.

Garri production in West Africa
(Pic. Credit: Aditya Parmar, Nigeria)



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1. Design and Construction of SUNGARI roasting devices is complete.
2. The customised Gari pans are built in South Africa.
3. Site is selected in Togo for installation.
4. Solar Thermal Concentrators are ready to be installed at the demonstration sites in Togo.

Steam Gari Pan

Receiver of Reflector – Solar Thermal

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Expected outcomes in case of success of the project (2030)

1. *Optimized Gari process.*
2. *Innovative solar cooking device for Gari roasting in West Africa.*
3. *Improved collaboration between Europe and Africa.*
4. *Technical and managerial capacity building.*
5. *Training.*
6. *Scalable and transferrable tech.*
7. *Socio-economic feasibility.*
8. *SunGari startup.*

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Contribution of the project to AU – EU R&D partnership

i. *Introducing an efficient, scalable, and transferrable solar device for Gari making and supporting the transition of African economies to be low carbon and climate resilient.*

ii. *Renewable energy systems to support economic growth and development in Africa.*

iii. *The collaboration between African and European scientific communities. South-South cooperation, via technical contribution and exchange of expertise among African partners (South Africa and Togo).*

Interest of Consortium members in participating in LEAP-RE clustering activities:

Session 2B.3: Clean Cooking and Biomass Transformation

"Process-Wise Evaluation of Specific Energy Demand for Traditional Cassava (Manihot Esculenta Crantz) to Gari (Gelatinized Manihot Esculenta Crantz mash) Processing Techniques"

By PhD Student: Mwape, Chikonkolo Mwewa

THANK YOU

CONTACT US FOR MORE INFORMATION

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