The KeyMaker Model in Mini-Grids

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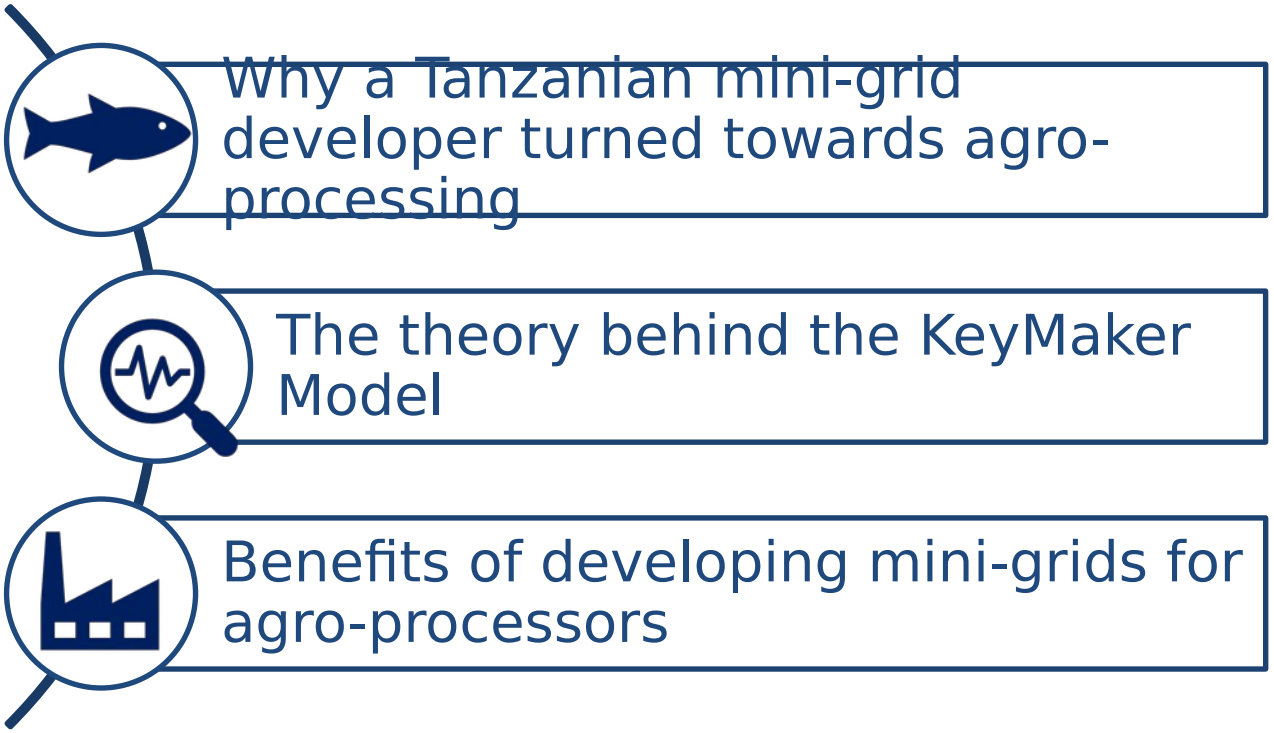
A story of how agro-processors can become mini-grid developers



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Lake Victoria, Tanzania

Source: Britannica

Source: Google Earth

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Bwisya, Tanzania

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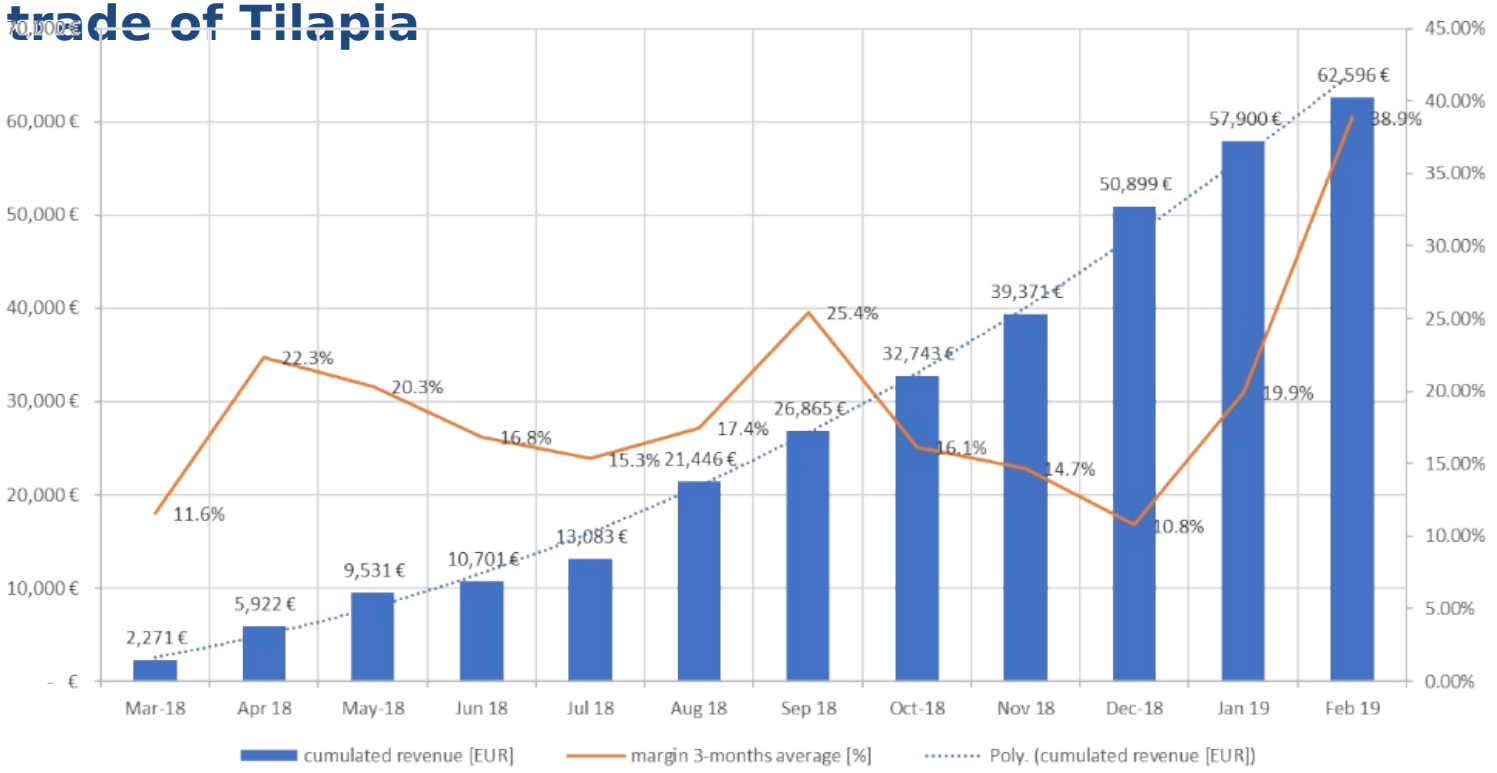
Bwisya, Tanzania

Revenue and margins from the trade of Tilapia



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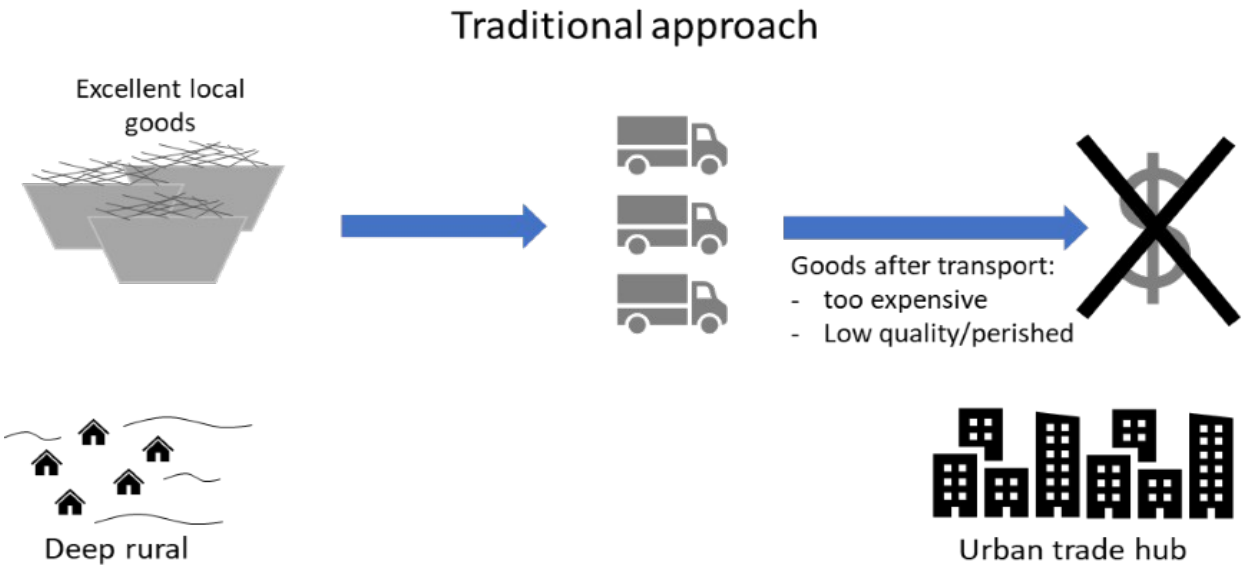
Deep rural goods traditionally do not reach the urban market



Source: KMM Fundamentals paper

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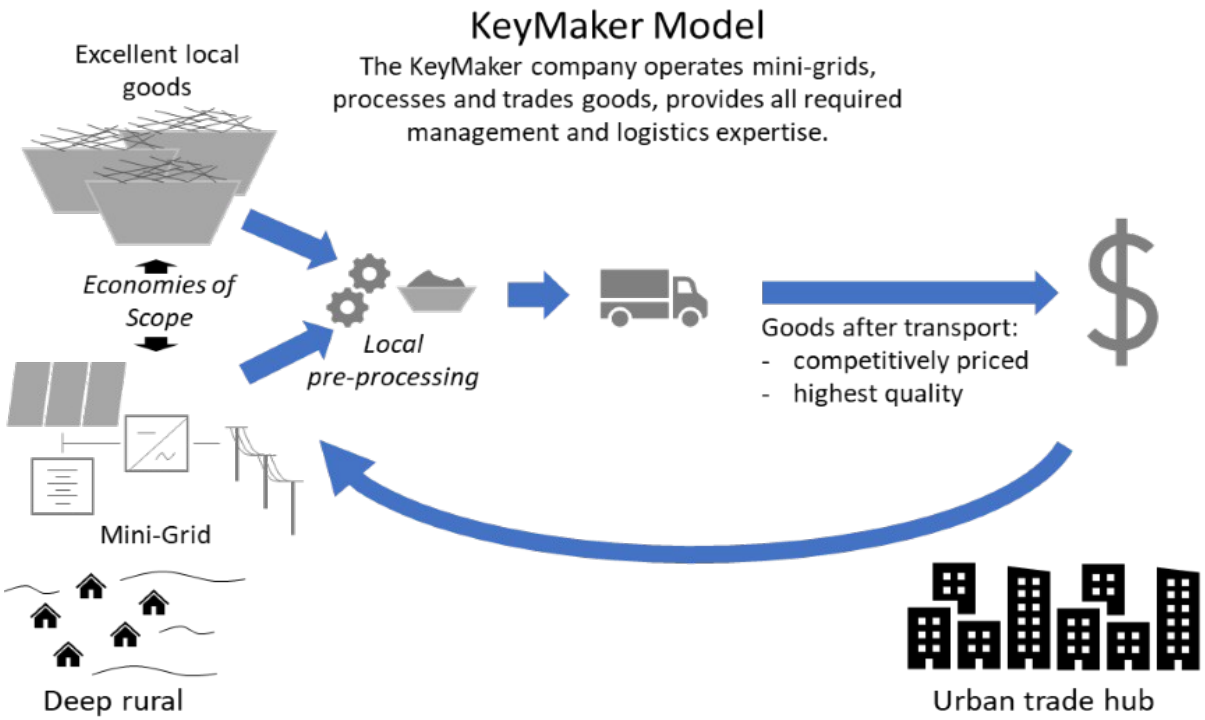
Key Maker Model: An Entrepreneurship Opportunity



Source: KMM Fundamentals paper

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The electricity supply from mini-grids is the **Key**, the mini-grid operator the **KeyMaker**.

Benefits of KeyMaker Model (KMM)

- ✓ Enables rural industrial activities.
- ✓ Encourages the processing of indigenous raw materials.
- ✓ Creates additional employment opportunities in the village, immediate and steady revenue to local families
- ✓ Integrates rural areas into the national economy

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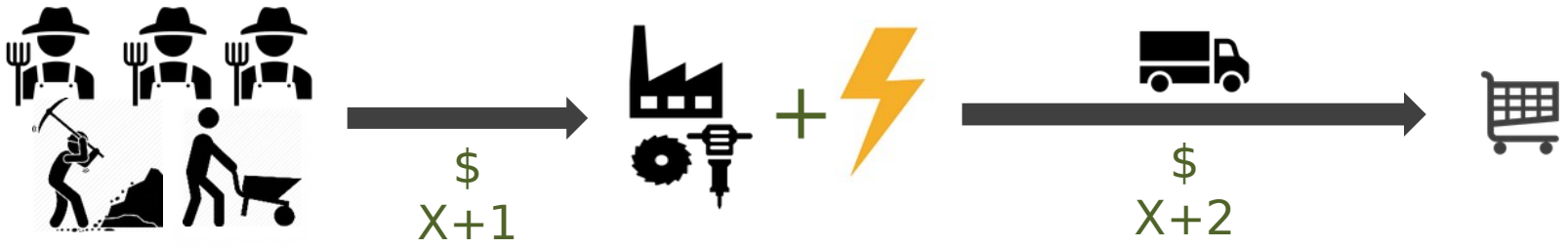
Benefits of KeyMaker Model (KMM)



- ✓ Enables rural industrial activities.
- ✓ Encourages the processing of indigenous raw materials.
- ✓ Creates additional employment opportunities in the village, immediate and steady revenue to local families.
- ✓ Integrates rural areas into the national economy.

- ✓ Opens up additional profit potential for the mini-grid developer.
- ✓ Strengthens the developer's relationship to the rural community.
- ✓ Reduces the mini-grid developer's exposure to demand fluctuation risks.
- ✓ Can be utilized for load management

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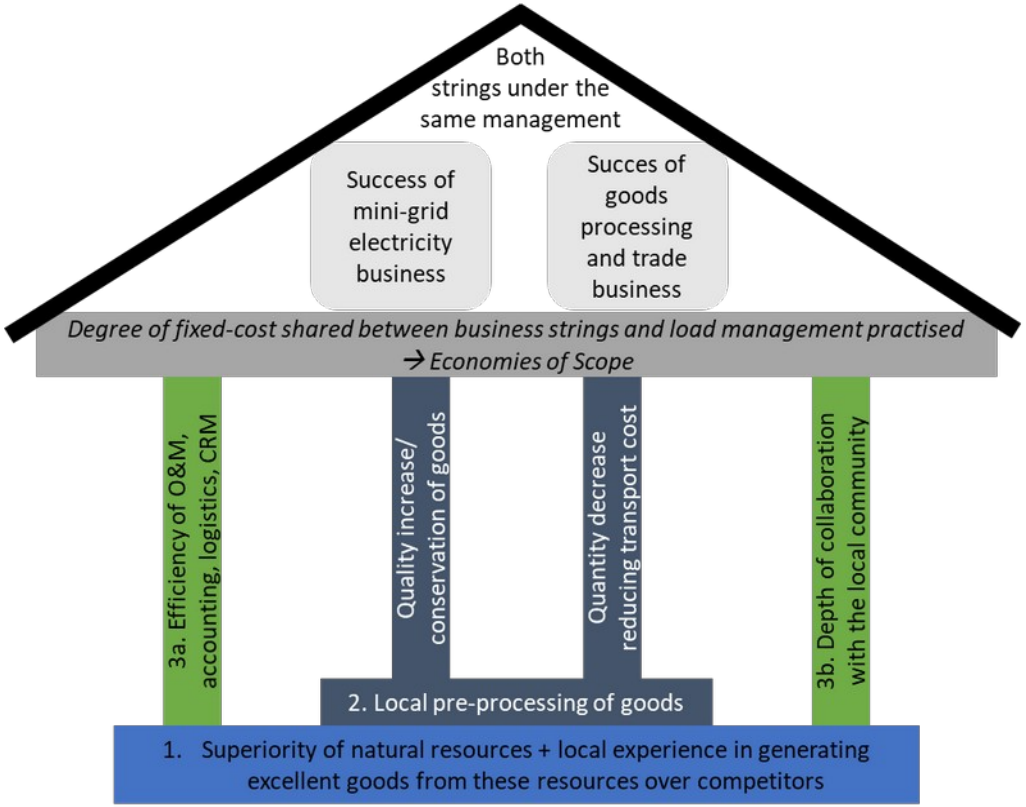
Benefits of KeyMaker Model (KMM)

The KeyMaker Model is an approach to electrify rural areas while enabling rural manufacturing and successful trading of goods from deep rural areas of developing countries into competitive national and international markets.

Benefits of KeyMaker Model (KMM)



Source: KMM Fundamentals paper

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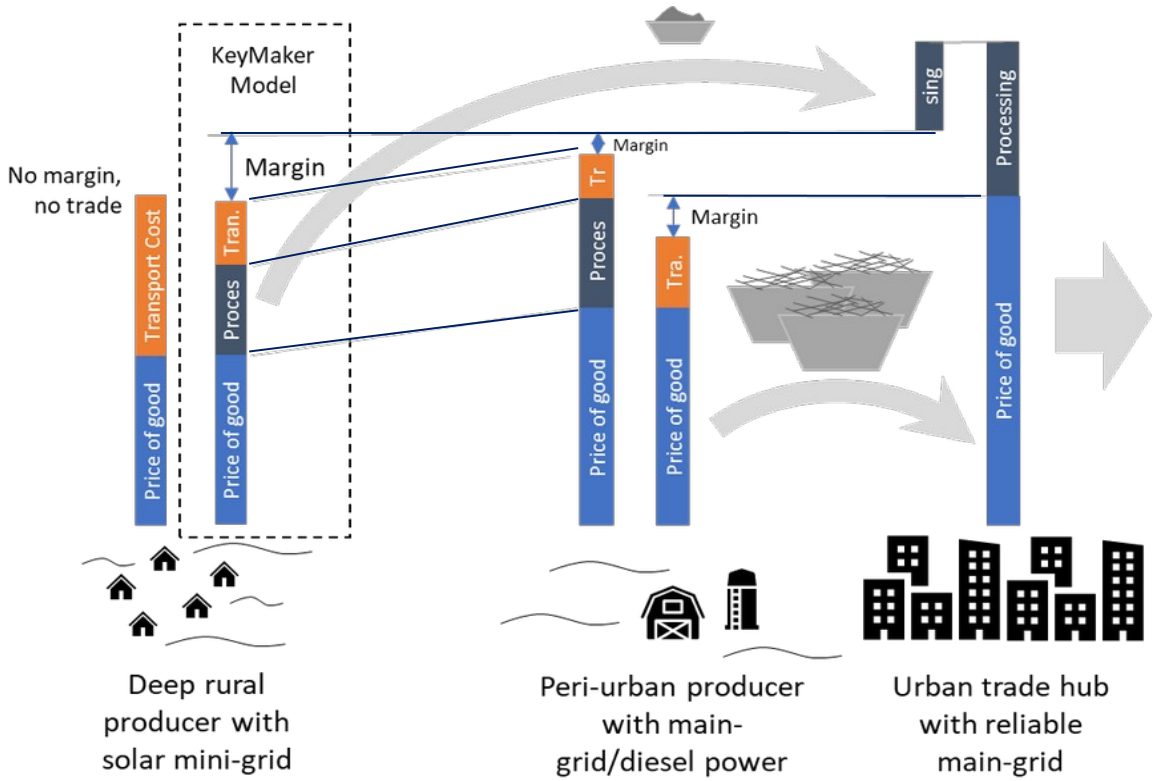
Competitive advantages from KMM cost sharing structure



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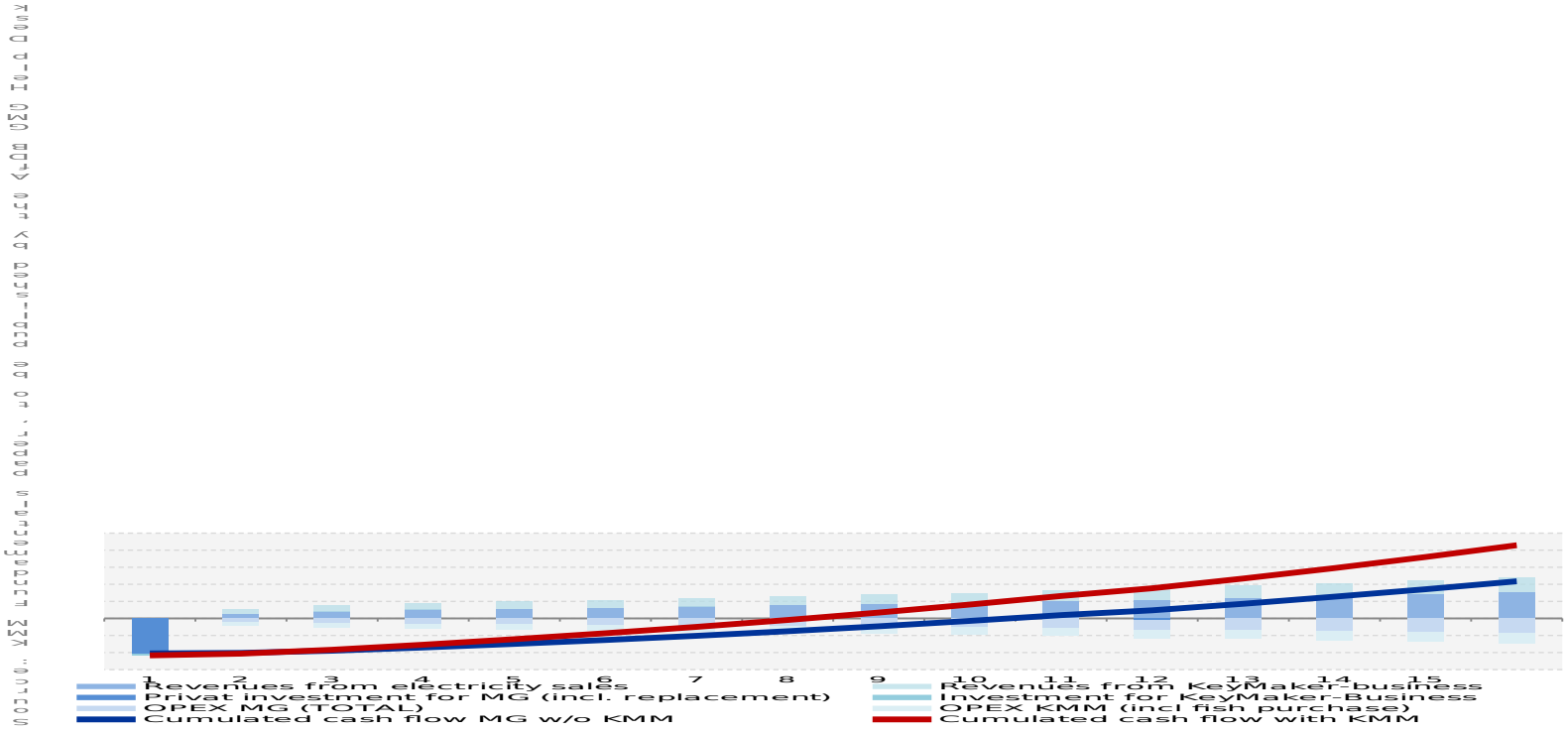
A strong and well-selected KMM has strong profit potential



Source: KMM Fundamentals paper

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The success of KeyMaker Model depends on four factors

The KeyMaker goods are superior in quality compared to those manufactured closer to the city due to superior local natural resources (water, soil, lake, minerals, climate).

The processing of goods using mini-grid electricity drastically reduces transport costs of the goods.

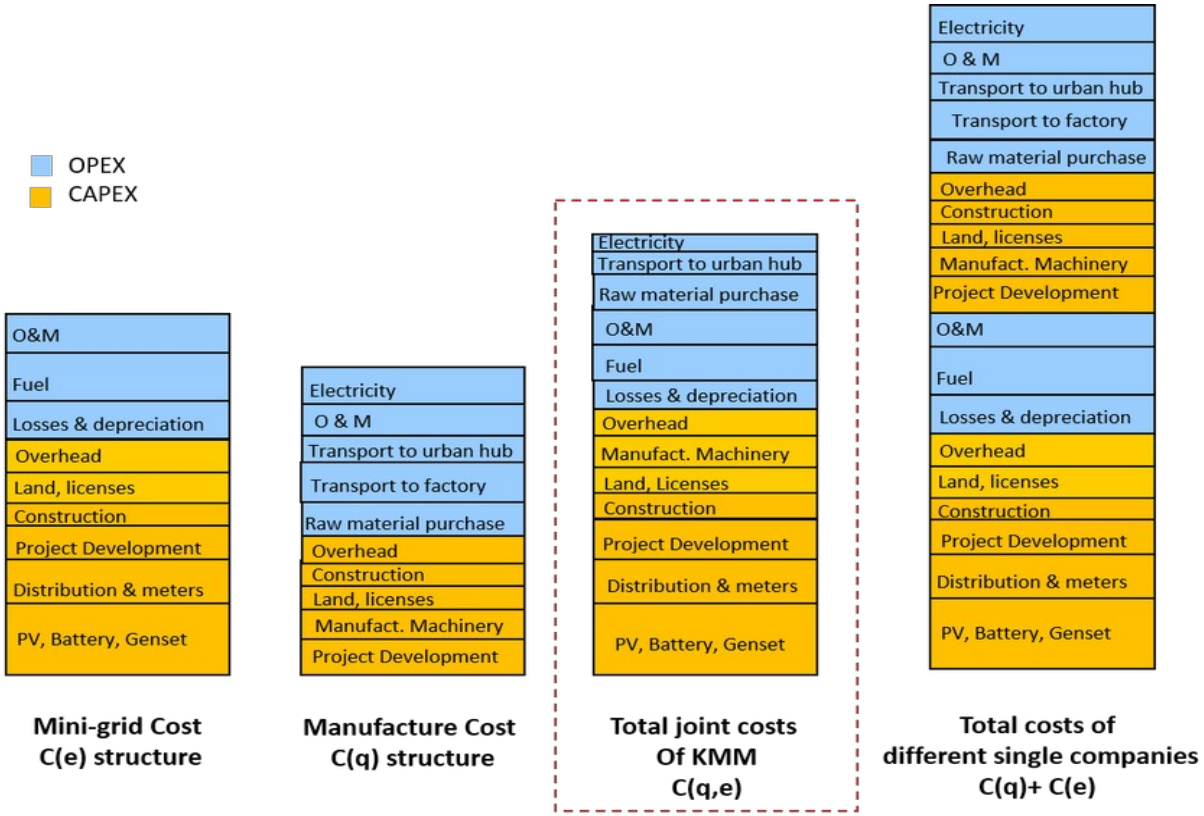
The two business strings (electricity and KeyMaker Model) have significant cost sharing benefits.

The recipient community is positively impacted in terms of economic value and stable job creation.

Challenges faced by agro-processors

- Access to raw materials/sufficient crops to ensure agro-processing plants run at operational capacity
- High transport costs of crops to processing sites due to underdeveloped infrastructure
- Post-harvest losses (at about 60%) as a consequence and lack of cold storage infrastructure along the supply chain
- Low quality of seeds leading to low yields. Lack of water also sometimes a challenge to enable production during dry season

Vision for a „future-proof“ processing company



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Vision for a „future-proof“ processing company

Processing companies should choose to invest directly in mini-grids in rural areas to:

- ✓ Make use of economies of scope, combining the CAPEX, management and operations of the mini-grid with that of the processing facility
- ✓ Set up cold storage infrastructure to eliminate produce wastage
- ✓ Decentralise and derisk their business by opening up a secondary income stream, i.e. sales of electricity
- ✓ Increase the quality of their product offering through the selection of superior produce
- ✓ Improve their profit potential through significantly reduced transport and processing costs
- ✓ Minimise transport losses along the supply chain and thereby increase plant output
- ✓ Develop closer ties with the community they are receiving produce from, providing insights and leverage into how produce is farmed, e.g. through improved seedlings

References

González Grandón T. and Peterschmidt N. (2019) "KeyMaker Model Fundamentals“ Green Mini-grid Se4all Africa, AFDB.

If you have further questions please contact us:

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