LEAD LEVERAGING EVIDENCE FOR ACCESS AND DEVELOPMENT
KREA UNIVERSITY

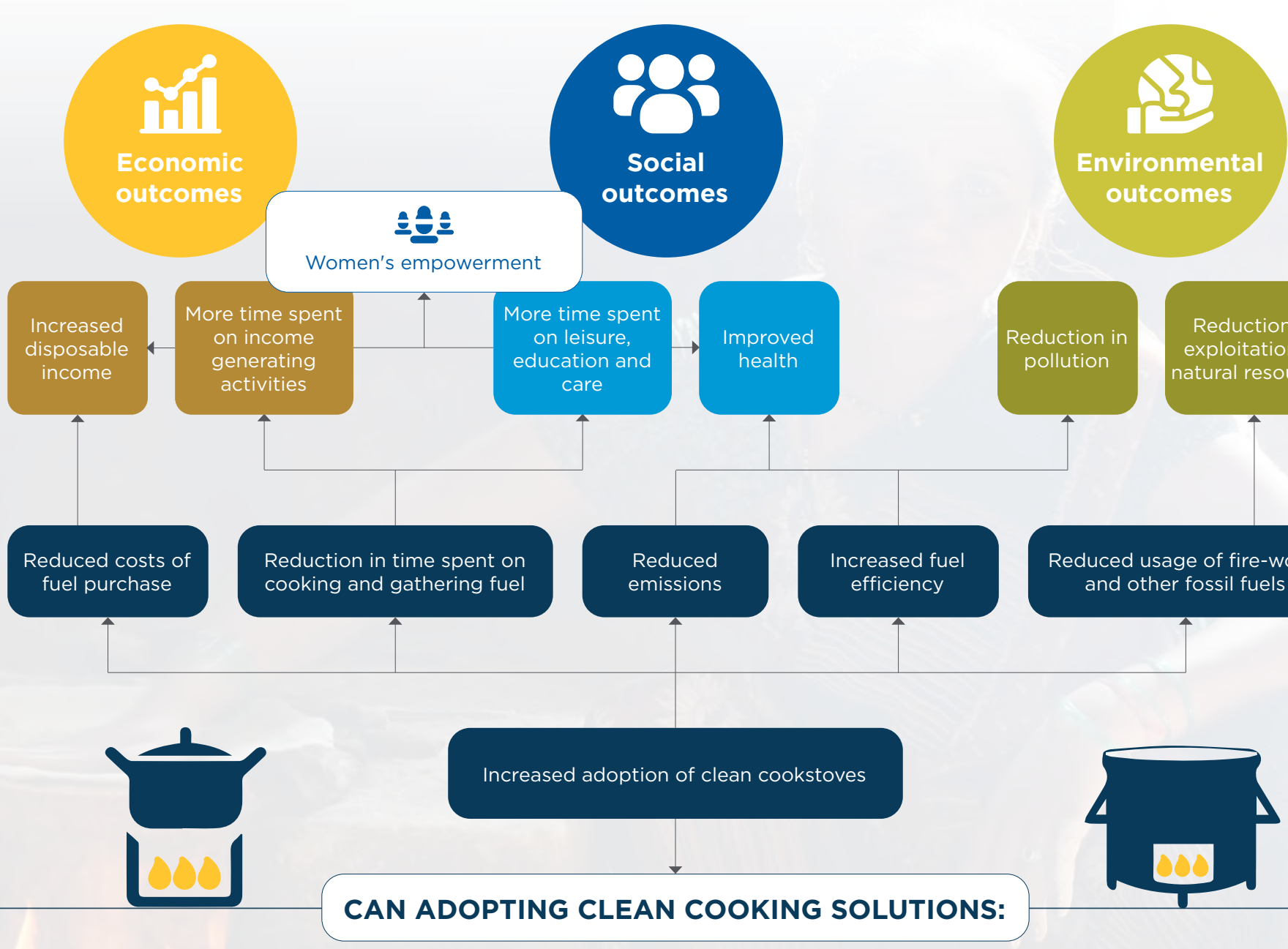
FMO Entrepreneurial Development Bank

IMPACT AND DETERMINANTS OF OF CLEAN COOKSTOVE BUSINESSES

Clean cookstoves are modern cookstoves designed to be less harmful to human health and the environment through the employment of cleaner, less polluting fuels, as well as altering conventional designs to address specific issues (World Bank, 2011).

PATHWAYS TO CHANGE

What do we know about the impact of adopting efficient cookstoves on health, economic, and environmental outcomes in Low and Middle-income countries?



CAN ADOPTING CLEAN COOKING SOLUTIONS:

Increase disposable income

Evidence: **Positive**

- Savings, due to fuel efficiency and, thus **lower expenditures on fuel**
- Local production of cookstoves creates **local employment** and economic benefits

Enable women's empowerment and wellbeing

Evidence: **Positive**

- **Time savings** due to improved fuel efficiency, **less time spent collecting fuel,** and men involved more in cooking.
- **Increased wellbeing** due to more time available for other activities.

Improve health outcomes

Evidence: **Positive, but weak**

- Positive health outcomes are highly **contingent on the design** of the stove (different stoves emit different levels of particulate matters) and their **consistent, prolonged, and exclusive use** (if a clean cookstove is used alongside a traditional one in the same kitchen it is evident that its health benefits from reduced indoor pollution are reduced)

Reduce pollution

Evidence: **Inconclusive**

- **Empirical evidence** of this topic is limited due to **insufficient data,** uneven and limited adoption of clean cookstoves
- Difficult to isolate impact due to a large number of other **confounding factors**

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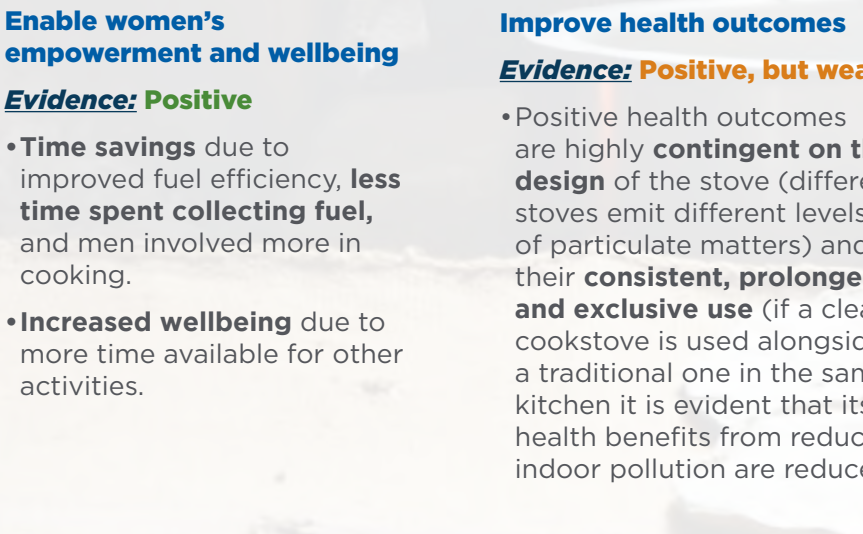
CLEAN COOKSTOVE BUSINESSES: DETERMINANTS OF SUCCESS

How do policy, market, and household characteristics affect the success of clean cookstoves businesses?



Enabling Environment

- **Subsidies** led to a **substantial reduction in the use of harmful fuels,** although phasing-out such policies can be difficult.
- **Subsidizing the purchase of clean cookstoves does not increase their adoption.** Indirect subsidies targeted to manufacturers lead to better results.
- **Grant-based financing is often the only option** for supplier finance, but carbon credits are an increasingly popular approach - although market price fluctuations make them risky.
- **Asset financing shows promise** as a form of end-user financing when provided as an embedded service by the cookstove business.

Household Demand

- Businesses need to adopt **participatory and human-centric design** approaches to factor in household's preferences and behaviours, as these can be sticky, and **difficult to change in the short term.**
- Understanding **what motivates households' choice of cooking methods** (e.g., preferences regarding health or costs) can inform strategies to promote the purchase of clean cookstoves, **support their continued usage,** and enable **transition** away from **traditional methods.**

Business Models

- A distribution model's effectiveness in creating lasting demand depends on several factors: (1) ensuring a **steady supply of clean cookstoves and fuels** in local markets; (2) **user-friendly product** offerings; (3) ensuring access to **reliable after-sale services;** (4) **forging partnerships** with local communities; (5) **improving their products and services** by addressing end-user constraints (willingness-to-pay, customer knowledge).
- **Successful distribution models are often hybrid.** E.g. models that leverage both local sale-points and tech-driven solutions.
- There is **no empirical evidence** on the effectiveness, scalability, and profitability of specific production, distribution, and marketing models. This highlights a key **knowledge gap** that can be bridged through further research.

This infographic summarises findings from the report of literature on clean cooking solutions and their impact across six Low and Middle-income countries. The assessment Clean Cookstoves: Impact and Determinants of Adoption and Market Success was commissioned by FMO and was conducted by LEAD at Krea University.

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