Are certain infrastructures more conducive to improving nutritious diet for low-income consumers in low and middle-income countries?


International Center for Evaluation and Development.

INTRODUCTION

The nutritional needs of low-income consumers (LICs), especially women and children, in low- and middle-income countries (LMICs) are often compromised by their low access to safe, affordable, and nutritious foods, partially due to poor infrastructures (WHO, 2020). Even where infrastructures exist, their design may not be gender-inclusive (UNDP, 2020). Studies reported that well-functioning infrastructures (int.) like roads, electricity, markets and irrigation systems foster inclusive socio-economic development and promote gender equality (GE). For instance, improved access to food markets not only creates economic opportunities but ensures the availability of nutritious foods (ND) for LICs (Thapa and Shively, 2018). Therefore, infrastructures can be a pathway to meeting various SDGs (World Bank, 2020).

To the best of our knowledge, no study has explored nutritional systems - especially of our knowledge, no study has explored infrastructures to ND for LICs and LMICs, ND, women's empowerment (WE), and GE in LMICs.

METHODS

This EGM is limited to the following Population, Intervention, and Study designs (PIODs).

- The population of interest is LICs living in LMICs in Sub-Saharan Africa and South Asia.
- The intervention is physical infrastructure. We focus on four types of int.: (i) Production int. (irrigation, mechanization, and energy). (ii) Post-Production int. (market, storage, processing, sanitary facilities) (iii) Distribution int. (roads, railways, and bridges) and (iv) Information int. (telecommunication masts, radio, and info. centers).
- The EGM has three outcomes: WE, GE, and ND. The nutritious diet also has three sub-dimensions: (i) Food and nutrition security, (ii) Diet quality (nutrient adequacy), and (iii) Socioeconomic and cultural dimensions of food.

OBJECTIVES

To identify a typology of infrastructures that are, empirically, more conducive to ensuring the availability and affordability of safe and ND to LICs in LMICs.

- Develop a Theory of Change (ToC) describing how different types of physical infrastructures impact ND.
- Generate an EGM providing an overview of clusters evidence connecting, causally, these types of infrastructures to ND in LMICs.

RESULTS

The preliminary insights of the pilot study are:

- Only a few studies assessed the impact of infrastructures on nutritional outcomes. Production and Post-production int. such as markets, and irrigation systems, impact nutritional outcomes for LICs through several channels, including increased availability and accessibility of nutritious foods. Some cases of behavioral changes in a mother's nutritional knowledge and child feeding practices are linked to information int. such as radios.
- Interestingly, most pilot studies focused on a limited number of physical infrastructures such as roads and markets. However, these studies showed that targeted infrastructural investments could potentially improve the agri-food systems and ensure access to affordable, safe, and nutritious diets for LICs in LMICs.
- Some of the differential impacts of infrastructures span beyond the agri-food systems, e.g., some studies indicated positive linkages between infrastructures and WE and GE outcomes in LMICs.

IMPLICATIONS

Based on the piloted studies insights, we could argue that the lack of well-functioning and gender-sensitive infrastructures hamper agricultural development, especially in LMICs. They threaten the livelihood, food, and nutrition security of millions LICs.

Yet little literature explored the causal relationships between these physical infrastructures and nutritional outcomes for LICs. To address this empirical evidence gap, ICED is running an EGM that would highlight existing evidence, gaps, and the channels through which some infrastructures impacted ND in LMICs.

Once completed, the findings of this EGM could guide academic and evidence-based policy implications for decision-makers and development practitioners in allocating scarce resources to under-researched thematic and geographical areas such as infrastructures in LMICs.

It would also advocate scaling up the design and management of gender-inclusive infrastructures that could positively impact ND in LMICs, especially for LICs.

REFERENCES


ACKNOWLEDGEMENT

ICED researchers acknowledge the financial support received from the Bill and Melinda Gates Foundation, the Campbell Collaboration’s technical support, and insights from various colleagues. However, all errors and omissions are the authors’ sole responsibility.

*Contact email: dhans.mathur@icipe.org or Takyiwaa@icipe.org*