The International Centre for Evaluation and Development

INTERNATIONAL CENTRE FOR EVALUATION AND DEVELOPMENT PROJECT BRIEF

Women's Empowerment and Nutrition in Ghana: The Role of Market and Storage Infrastructures

Image Source: University for Development Studies/Hamdiyah Alhassan

Project Details

Principal Investigator:

Professor Hamdiyah Alhassan

Implementing Institute(s):

Kazuhiko Takeuchi Centre for Sustainability and Resilience (KTCSR), University for Development Studies (UDS)

SUMMARY

Women play a significant role in household nutrition, so their empowerment is critical. Physical infrastructure such as market and storage facilities may offer a potential solution to enhance women's empowerment, gender equality, and nutrition outcomes by increasing incomes, diversification, assets, and employment opportunities for the household, but the effects may vary depending on the type and mix of physical infrastructures. However, information on the impact of physical infrastructures on nutrition and gender outcomes is scant in the literature despite its policy relevance. Moreover, existing studies on the impact of physical infrastructure, focused mainly on measuring infrastructure as a single variable, and thus fail to capture the heterogeneity of multiple physical infrastructures. Against this backdrop, this study sought to examine the effects of using storage facility only, market facility only, and both infrastructures on (1) women's empowerment, (2) gender equality, (3) nutrition, and (4) hidden hunger in Ghana.

We revisited the Feed the Future data to generate two-round panel data using the first panel as the baseline and a subsample of the second-round data as the second panel. A subsample of 1,492 households was obtained for the analysis. The explanatory sequential mixed design was employed. This entailed collecting quantitative data, followed by qualitative interviews (Focus Group Discussions and Key Informant Interviews) to validate and interpret initial unexpected and surprising quantitative results. The quantitative data was analysed using the multinomial endogenous switching regression (MESR) and multinomial endogenous treatment regression (METE) models, while the qualitative data was analysed using content analysis. We controlled for time-varying unobserved fixed and random effects in the MESR and METE models using the Mundalk's approach. Furthermore, we conducted mediation analysis to identify the pathways between infrastructure use and the outcomes using Hayes macro-application "PROCESS" for SPSS. We also conducted a falsification test to check the validity of the instruments used.

The results show that use of market only, storage facility only, and both infrastructures have significant positive impact on hidden hunger (measured using available cereal per adult equivalent). The effect size is relatively large for households that use storage facility only than users of market facility only and both infrastructures. The results suggest that access to storage and market facilities may promote the production and consumption of energy-dense food than micronutrient-rich foods. The mediation analysis revealed that the pathway through which the use of both market and storage facilities may impact on hidden hunger is through lower crop diversification. The results also reveal that the use of market and storage facilities plays a significant role in nutrition outcomes. Specifically, the use of market facility

only, storage facility only and both infrastructures significantly increase minimum dietary diversity of women (MDD-W) and child's dietary diversity score (CDDS). The mediation analysis revealed that the pathways through which the use of market and storage facilities may impact on women's dietary diversity were through higher crop diversification, increased income, and more accumulated assets. Likewise, the positive impact of market and storage facilities on CDDS was mediated through higher crop diversification and more accumulated assets. As expected, the use of both infrastructures has the largest impact on MDD-W and CDDS. Moreover, for child malnutrition, the use of market only, storage facility only, and both infrastructures are negatively associated with wasting and underweight in children under five. Except for the use of market only, the use of storage facility only and both infrastructures have significant and negative impact on stunting. The negative impact of use of both market and storage facilities on stunting was mediated through higher crop diversification.

Further, the results show that households that used market facility only and both infrastructures attained gender equality and had significantly more empowered women than those who did not. However, use of storage facility only positively impacted on women's empowerment but has no significant effect on gender equality. One important finding is that the effect size is relatively large for households that use both infrastructures as compared to those that use market facility only and storage facility only. This finding is plausible because different physical infrastructures have distinct strengths that, when combined, result in greater benefits for households The mediation analysis also shows that the mechanism and pathways through which the use of both infrastructures may improve women's empowerment are through the ownership of asset, and lower crop diversification. We conclude that interventions that encourage the development of both market and storage infrastructure have the potential to empower women and promote gender equality more than a single infrastructure. Households, on the other hand, must be willing to use both infrastructures to support policies that promote women's empowerment and gender equality. The key implication of our findings is that using both market and storage facilities has substantial benefits on households and should be extended. Interventions to foster the provision of both market and storage facilities could improve nutrition and empower women, thus reducing malnutrition and gender inequality.

INTERNATIONAL CENTRE FOR EVALUATION AND DEVELOPMENT (ICED)

The International Centre for Evaluation and Development (ICED) is an independent, African-owned and African-led think tank that works to use the outputs of evaluation to contribute to and enhance development outcomes and impacts, concentrating on Africa, where the need for its expertise is greatest.

ICED was created in 2016 to fill an important gap in the evaluation of development initiatives focusing on the Global South, that is to say the group of 133 developing and underdeveloped countries as listed by the Finance Centre for South-South Cooperation (except China).

For more information, visit www.iced-eval.org

1-3: Rural storage facilities used by local farmers.
Image source: University for Development Studies/Hamdiyah Alhassan

The International Centre for Evaluation and Development
UNIVERSITY FOR DEVELOPMENT STUDIES