Addressing inequities in access to fortified sunflower oil: Costs of small, medium & large-scale fortification in Tanzania

Dylan Walters1, Edna Ndau2, Elina Maseta3, Nadira Saleh4, Dr. Theobald Mosha5, and Dr. Susan Horton6

SUMMARY

• The MASAVA project aims to reduce VAD through sunflower oil fortification with vitamin A through the use of SME oil processors and retailers.

• VAD rates in children are high in Manyara (72.1%) and Shinyanga (71.7%) regions of Tanzania - higher than previously reported.

• The incremental cost of fortification is estimated to range from 0.66% for large-scale (or $0.04 per capita/year) to a high of 22.2% (or $1.51 per capita/year) for small-scale enterprises producing oil in 20L containers compared to the lowest price of unfortified oil.

RESULTS (Continued)

• The modelled incremental cost (IC) of fortification is estimated at $0.03, $0.16 and $0.28 per litre sold in 20L containers for large, medium and small-scale enterprises compared to unfortified oil.

• This represents a range of 0.66% increase in large-scale oil, or $0.04 per capita per year, to 22.2% increase for small-scale enterprise oil, or $1.51 per capita per year compared to unfortified.

• The largest annexed cost component of fortification for large-scale enterprises producing oil in 20L is the premix cost (60%) whereas for medium-scale it is premix (31%) and equipment (21%), and for small-scale it is mainly equipment (48%).

• Low-cost small-scale scenario

  - The packaging cost for 1L containers for small- and medium-scale producers itself can add up to $0.23 cents per litre, or 18% increased cost per litre for small-scale producers. Using 20L containers is the largest factor in increasing costs for SMEs currently.

  - Allowing SMEs to distribute sunflower oil in 20L and 50L containers would reduce the IC per litre by $0.16, and safer for rural households who typically purchase oil by the “kilo".

  - Approving SME usage of low-cost plastic or mild steel tank for mixing and removing the 18% VAT on oil would reduce incremental cost by $0.04 and $0.05 per litre.

  - All three measures combined could reduce the incremental cost of medium-scale production to only 9% higher than lowest price of oil ($270 TSH per litre).

• Implications

  - The costing model is preliminary and relies on cost data and assumptions about the production based on project reports and literature. Work underway on costs components and prices of oil and equipment/materials would improve the accuracy. This does not include public sector costs of fortification for advocacy, social marketing, QM and MNE, nor fluctuations in seasonal costs.

DISCUSSION

The incremental cost of fortification is minimal for large-scale producers, similar to the experience in Uganda (4). Knowing that increasing access to SME-produced oil is likely necessary to bridge the urban/rural divide in access to fortified oil, SMEs need to innovate to lower the high equipment and packaging costs. Removal of the new 18% VAT for SMEs may also help make fortified oil affordable. Reducing costs may be essential for creating the incentive to enter the fortification market, produce affordable product for poorer and rural households that are key to reducing VAD.

Conclusion

The results of the economic analysis model emphasize the need for government regulators and SMEs in the sunflower oil industry to consider innovating with low-cost or cost-saving actions to increase equity in access to fortified oil and, ultimately, sustainable reductions in VAD in children and mothers.

FUNDING SUPPORT

This project is undertaken with the financial support of the International Development Research Centre (IDRC) and the Government of Canada through Global Affairs Canada (GAC).

AUTHOR AFFILIATION

1. PhD candidate, Canadian Centre for Health Economics, IHME, University of Toronto, Canada
2. PhD student, Sokone University of Agriculture, Tanzania
3. PhD student, Sokone University of Agriculture, Tanzania
4. Project Manager, MEDEA, Canada
5. Professor, Sokone University of Agriculture, Tanzania
6. Professor and CIGI Chair, Global Health Economics, University of Waterloo, Canada

REFERENCES