

# Modelling The Potential Contribution Of OFSP To Meeting Vitamin A Requirements In Malawi Using HCES

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## Introduction

Vitamin A deficiency (VAD) remains a public health challenge in developing countries. In Malawi, estimates suggest that vitamin A inadequacy persists for about 46.1% of the population (Gilbert et al. 2019).

**Biofortified OFSP** is one of the nutrition-sensitive agricultural interventions implemented to combat VAD in Malawi. As rural populations rely heavily on locally produced staples and have poor diversity in their diets, increasing OFSP consumption is a promising intervention.

We explore whether increased consumption of **OFSP**, driven by income growth, can meaningfully reduce vitamin A inadequacy in Malawi.

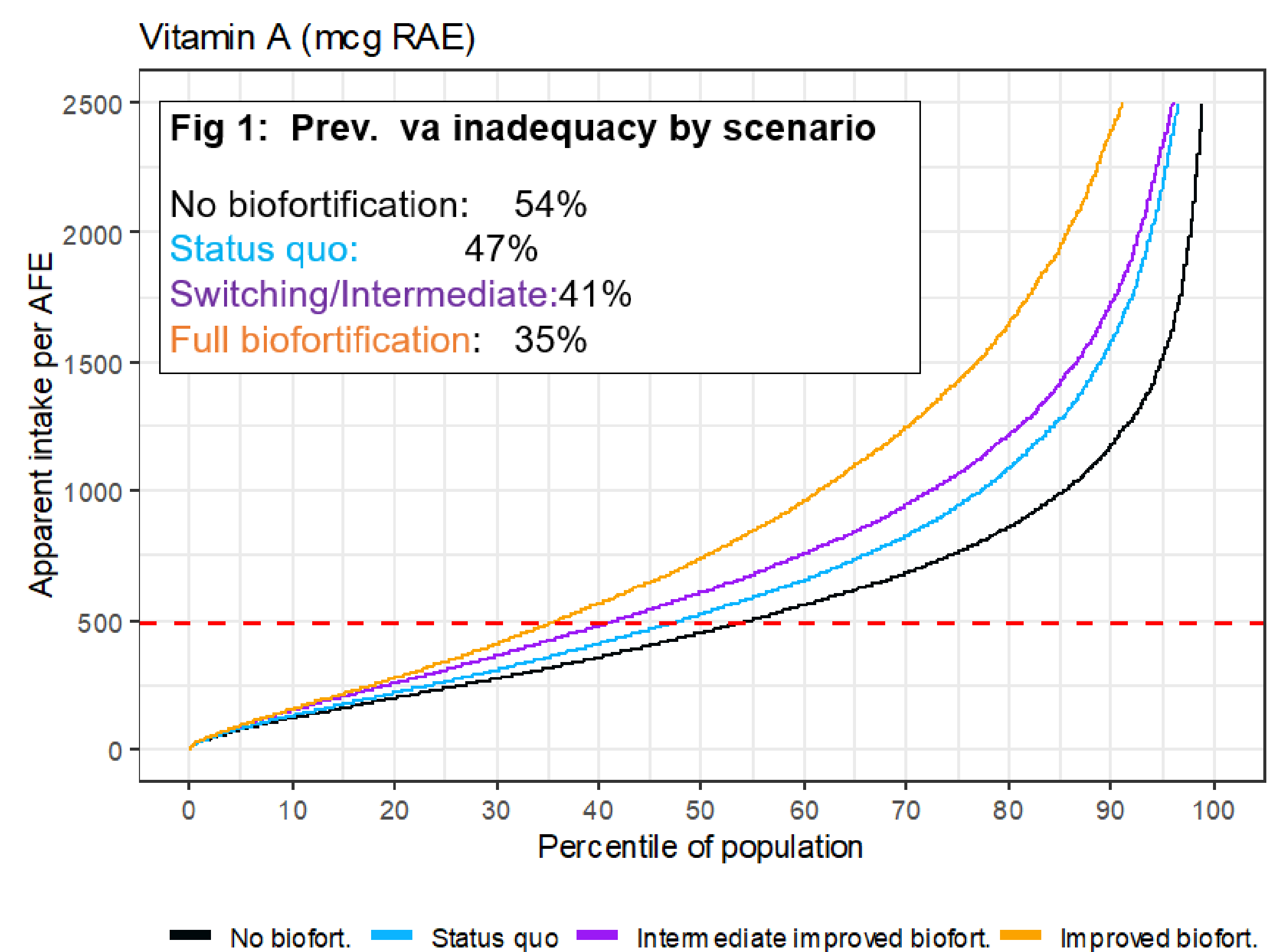
## Materials & methods

Household food consumption data from Malawi's 2019/20 IHS5 which identifies four relevant sweet potatoes (white, orange, boiled white & roasted white) were matched with FCT data. The prevalence of vitamin A inadequacy were estimated using apparent intake per adult female equivalent (AFE) approach.

**Table 1:** Four scenarios to analyze the potential contribution of OFSP

Scenario & description	Illustration
1. <b>No biofortification:</b> Assumes no consumption of OFSP	
2. <b>Status quo:</b> Assumes no changes to sweet potato consumption	
3. <b>Switching:</b> Income elasticity estimated between IHS4 & IHS5, & trend growth projections (IIASA SSP2)	
4. <b>Full biofortification:</b> Assumes all sweet potato consumption is OFSP	

## Results & discussion



**Table 2:** Prevalence of vitamin A inadequacy by subpopulation groups across four scenarios

	Apparent intake			
	No biofortification	Status quo	Switching scenario	Full biofortification
<b>National (total)</b>	53.7	47.1	40.9	35.4
<b>Rural</b>	59.8	52.4	47.2	39.7
Lowest SEP	91.8	86.0	85.8	73.7
Lower Middle SEP	81.4	71.4	63.2	54.0
Middle SEP	65.7	55.5	45.8	38.4
Higher Middle SEP	45.2	37.2	28.4	24.7
Highest SEP	15.0	12.0	9.6	7.7
<b>Urban</b>	26.4	23.3	18.5	16.1
Lowest SEP	75.1	68.7	68.7	49.8
Lower Middle SEP	33.4	28.4	26.0	18.6
Middle SEP	16.7	14.4	9.6	8.4
Upper Middle SEP	5.8	4.3	3.1	3.1
Highest SEP	1.0	0.7	0.7	0.7

❖ As OFSP consumption increased in the switching scenarios, vitamin A inadequacy decreased; however, the effect was not uniform across all strata. The urban, wealthier quintiles showed a greater switch from white to OFSP, although VAD is less prevalent among this group.

## Conclusion

OFSP has the potential to reduce vitamin A inadequacy in Malawi, but gaps remain to benefit the rural lowest SEPs who most need it. Thus, interventions are required to address barriers in a range of contexts that impede rural lowest populations from embracing or consuming OFSP.