Food literacy: Novel strategy to address hidden hunger among women in rural and urban Tanzania

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Background

- Increased nutrient demands and physiological factors make women of reproductive age (WRA) vulnerable to micronutrient deficiencies.

- Globally, 2 in 3 women have micronutrient deficiencies, with 69% burden in iron, zinc and folate deficiencies.

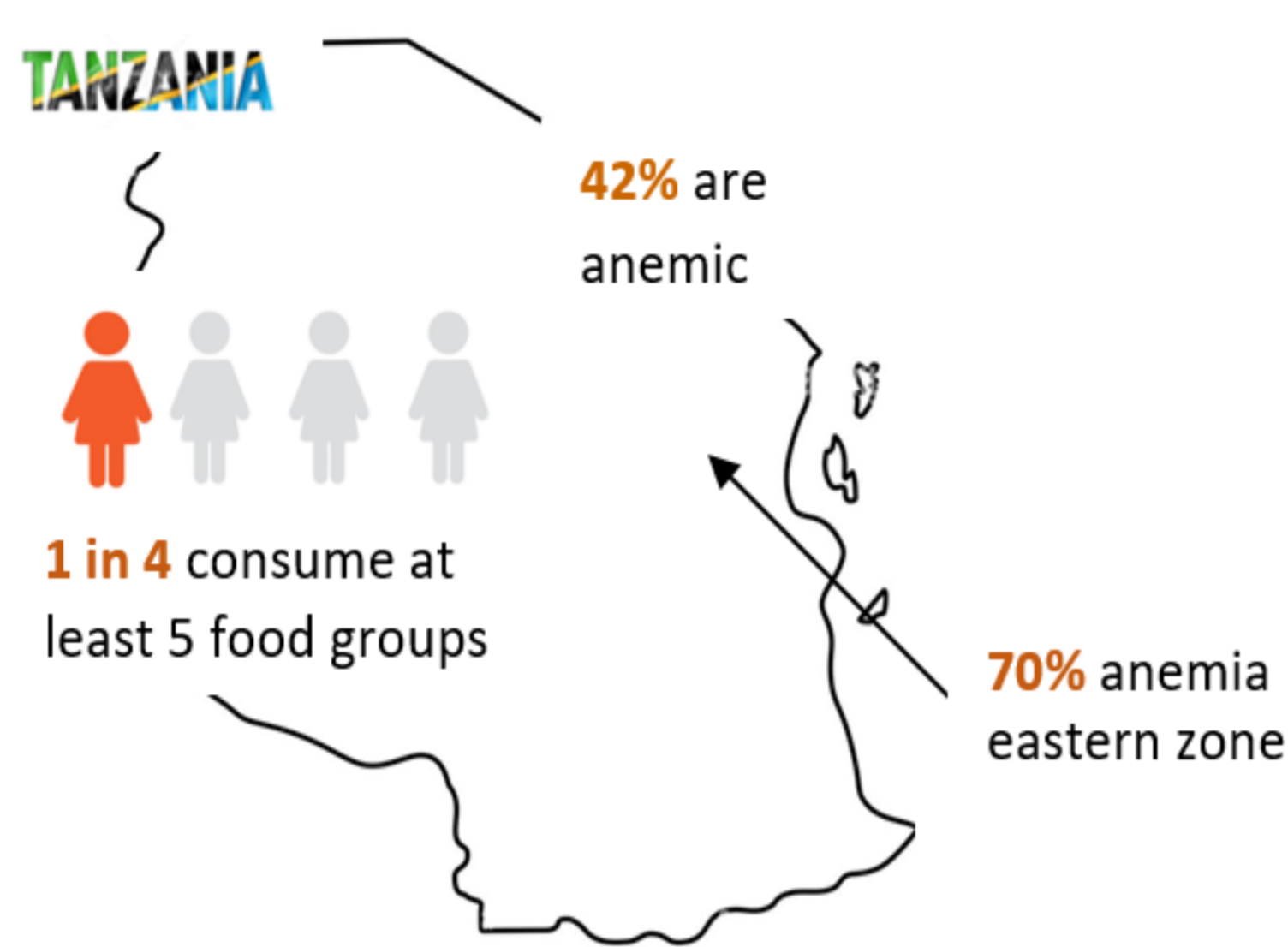- In Sub-Saharan Africa 9 in 10 have at least one deficiency (GAIN and Micronutrient Forum 2022).

42% are anemic

1 in 4 consume at least 5 food groups

70% anemia eastern zone

Fig 1. Map of Tanzania

- Micronutrient deficiencies weaken immunity, increasing vulnerability to infections and diseases.

- Limited access to diverse and nutritious food contribute to these deficiencies.

- Food literacy (FL) empowers women to make informed food choices, reducing micronutrient deficiencies.

- This study investigated FL as a sustainable solution to combat hidden hunger among WRA.

Study setting and participants

- A cross-sectional study was conducted in Mkuranga (rural) and Ilala (urban) districts, Tanzania (n=432)

- Semi-structured questionnaire used to collect FL, household dietary diversity (HDDS), 24-hours dietary recall socio-demographic data

- Analysis was done by Stata 15.0 software;

- Individual FL scores were categorized into 3 levels; limited (0-33), sufficient (>33-42) and excellent ⩾42.

- HDDS for 12 food groups was classified into 3 groups: low(1-3), medium (4-5), and high diversity (>=6).

- FL information were linked with HDDS and micronutrient intake

Key findings

| Overall | Excellent 11% | Sufficient 25% | Limited 63% |

| Rural | Excellent 2% | Sufficient 15% | Limited 83% |

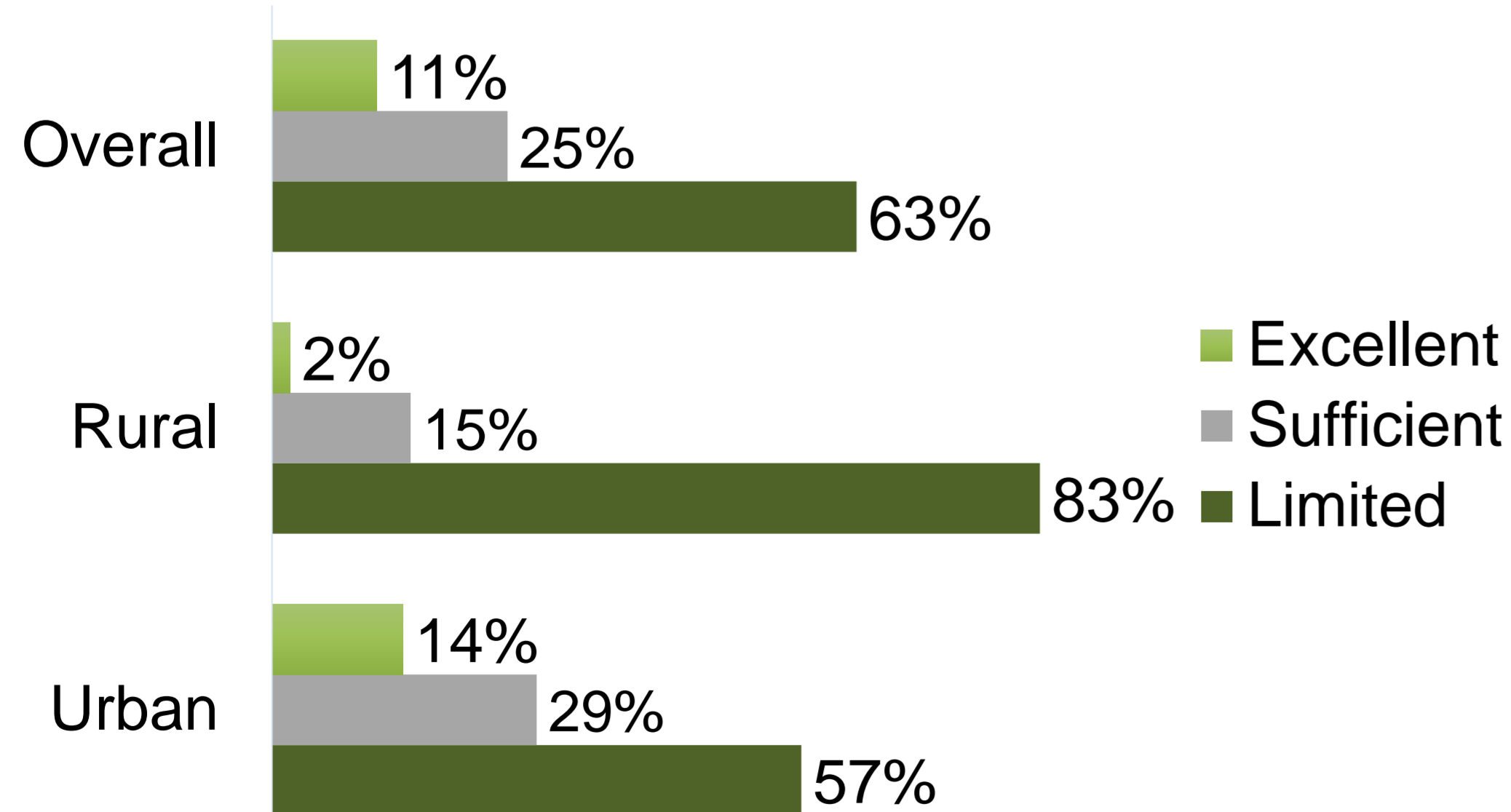| Urban | Excellent 14% | Sufficient 29% | Limited 57% |

Fig 2. Food literacy levels across two Districts

- Women in urban had significantly higher FL scores (t-test, $p<0.05$).

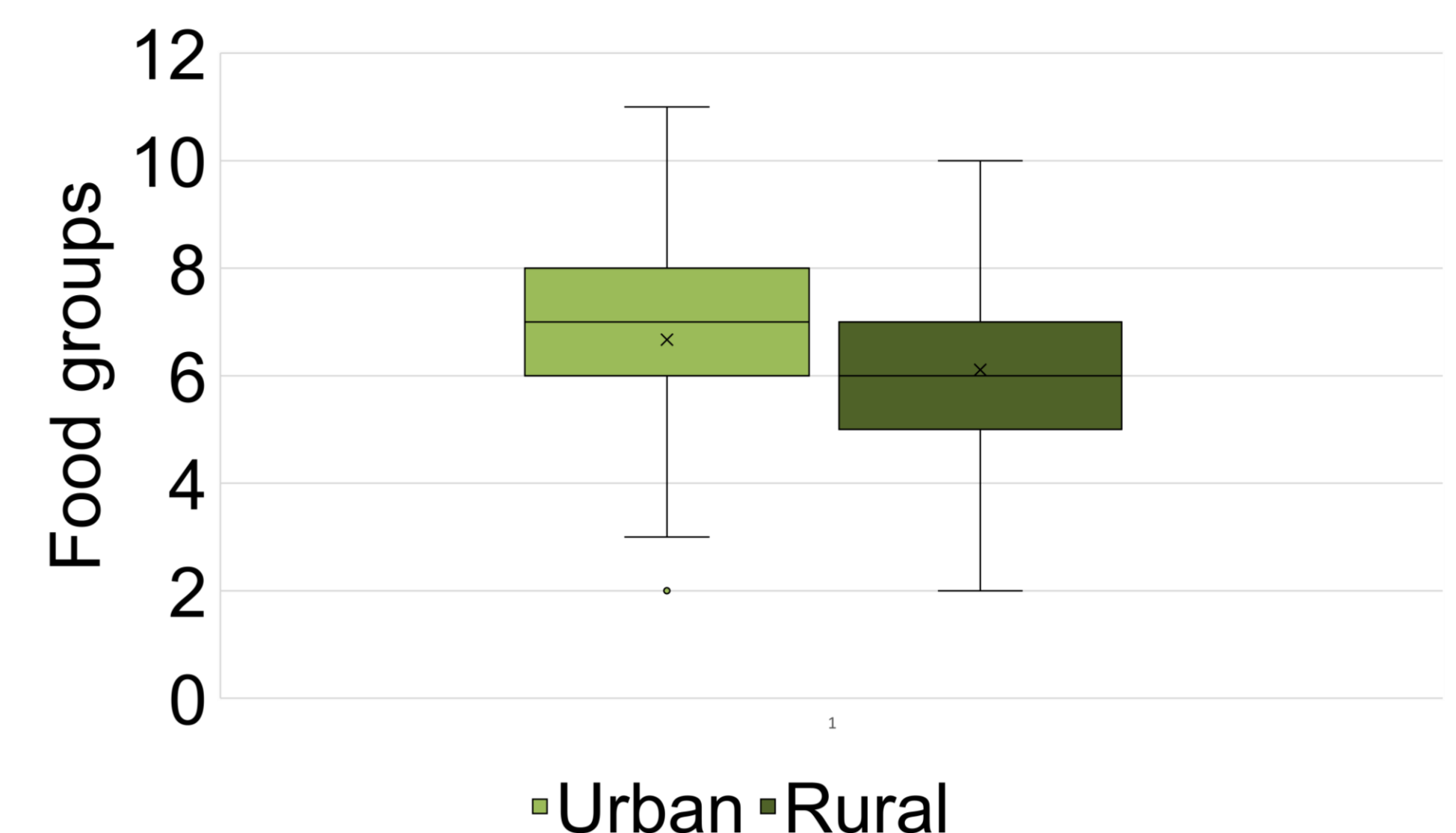- HDDS was significantly lower in rural (t-test $p<0.05$).

Urban ▪ Rural

Fig 3. Summary statistics of food groups consumed by District

- Correlation analysis showed a positive and significant relationship between HDDS scores and FL (r=0.3, $p<0.05$).

- Regression analysis shows FL (β=0.03) and social economic status (SES) (β=0.24) are the significant predictors of the HDDS ($p<0.01$)

Highest consumed — Vegetables, cereals, roots, fats and oils
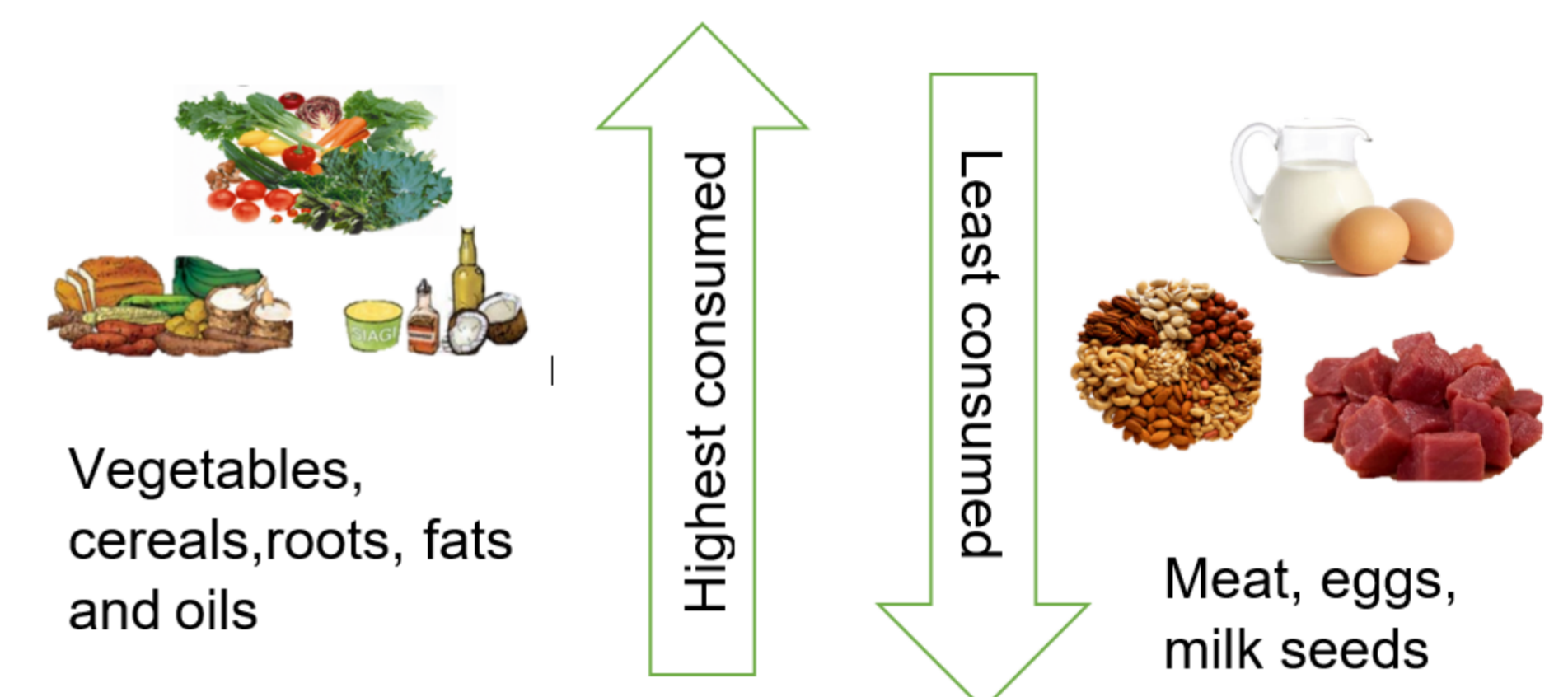
Least consumed — Meat, eggs, milk seeds

Fig 4. Least and most consumed food items

- HDDS was significantly higher among women with excellent FL (Tukey's HSD test $p<0.05$).

Table 1: Micronutrient Intake and compliance WRA

Micro-nutrient	Mean	SD	Min	Max	RDI
Iron	13.22	8.10	0.16	72	Below
Zinc	7.85	4.82	0.09	29.99	Below
Folate	408.98	326.14	2.29	1997	Recommended
Vit_A	639.31	613.63	20.85	2964.8	Below

- No significant relationship observed between daily micronutrient intake with individual FL score ($p>0.05$).

Key messages and recommendation

- FL and SES are the significant predictors of the HDDS

- High HDDS does not reflect adequate micronutrient intake

- It correlates with low intakes of micronutrient rich foods and low levels of FL in this study population

- FL is recommended to increase competencies that could potentially increase awareness of consuming micronutrient-rich foods among WRA in rural and urban Tanzania.

References

GAIN and Micronutrient Forum. (2022). New Global Estimates for Hidden Hunger ACTION NEEDED TO ADDRESS ALARMING MICRONUTRIENT DEFICIENCY LEVELS WORLDWIDE Billions Worldwide Affected by Micronutrient Deficiencies. Global Alliance for Improved Nutrition, October, 1–3.

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