



Assessing coverage of large-scale food fortification interventions: Fortification Assessment Coverage Toolkit (FACT) results and implications

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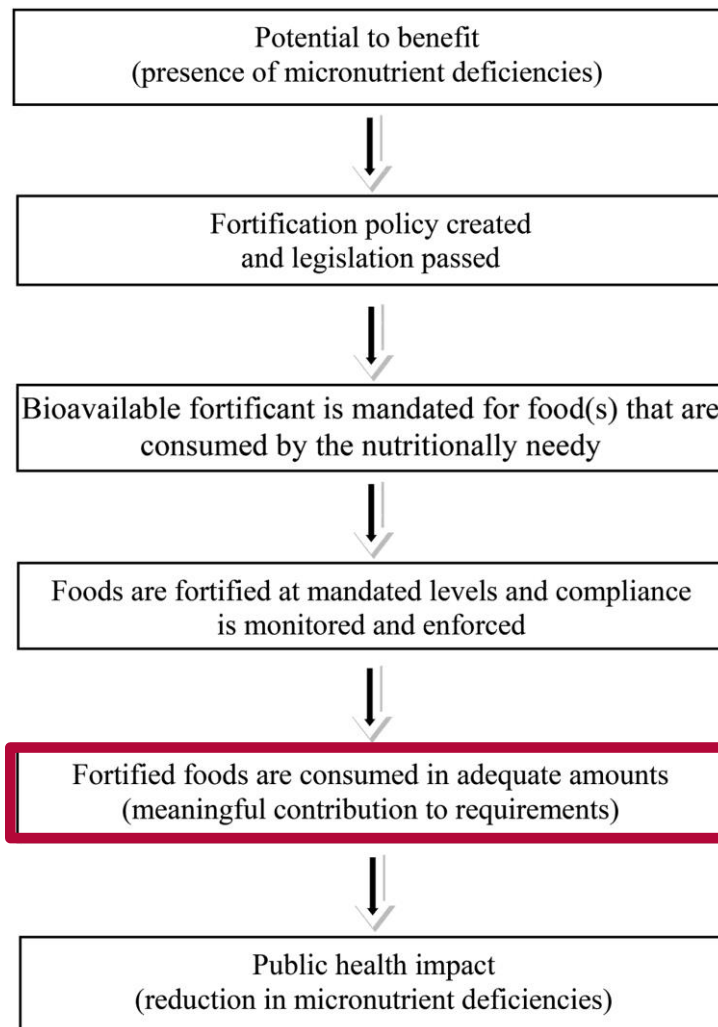
Fortification has important impacts on micronutrient status and health outcomes



but access to fortified foods and the conditions under which they are stored, purchased and used varies greatly within and among countries



Understanding potential for impact requires an understanding of the program impact pathway



Program impact pathway for mass fortification programs



What is the potential for impact of food fortification in countries?

- Dietary contribution of nutrients from fortified food vehicles
 - Coverage and utilization
 - Actual nutrient content of food at point of consumption or purchase

How is this potential distributed across population groups and particularly among those who might be most vulnerable to inadequate nutrient intakes?

- Representative sample stratified by potential risk factors for low micronutrient intakes
 - E.g. poverty, region of residence, poor dietary diversity, poor infant and child feeding practices

14 FACT surveys assessing large-scale food fortification programs completed in 13 countries between 2013-2015



Country*	Oil	Wheat flour	Maize flour	Salt
Bangladesh				X
Senegal	X	X		X
Côte d'Ivoire, Abidjan	X	X		
Ethiopia				X
Ghana				X
India, Rajasthan	X	X		
India, National				X
Indonesia				X
Niger				X
Nigeria, Kano and Lago states	X	X	X	
Philippines				X
South Africa, Eastern Cape and Gauteng provinces		X	X	
Tanzania	X	X	X	X
Uganda	X	X	X	X

* Bold indicates countries where full FACT surveys were conducted; Not bold indicates countries where FACT modules were included in Universal Salt Iodization (USI) Partnership Project surveys

FACT assesses key measures of potential for impact



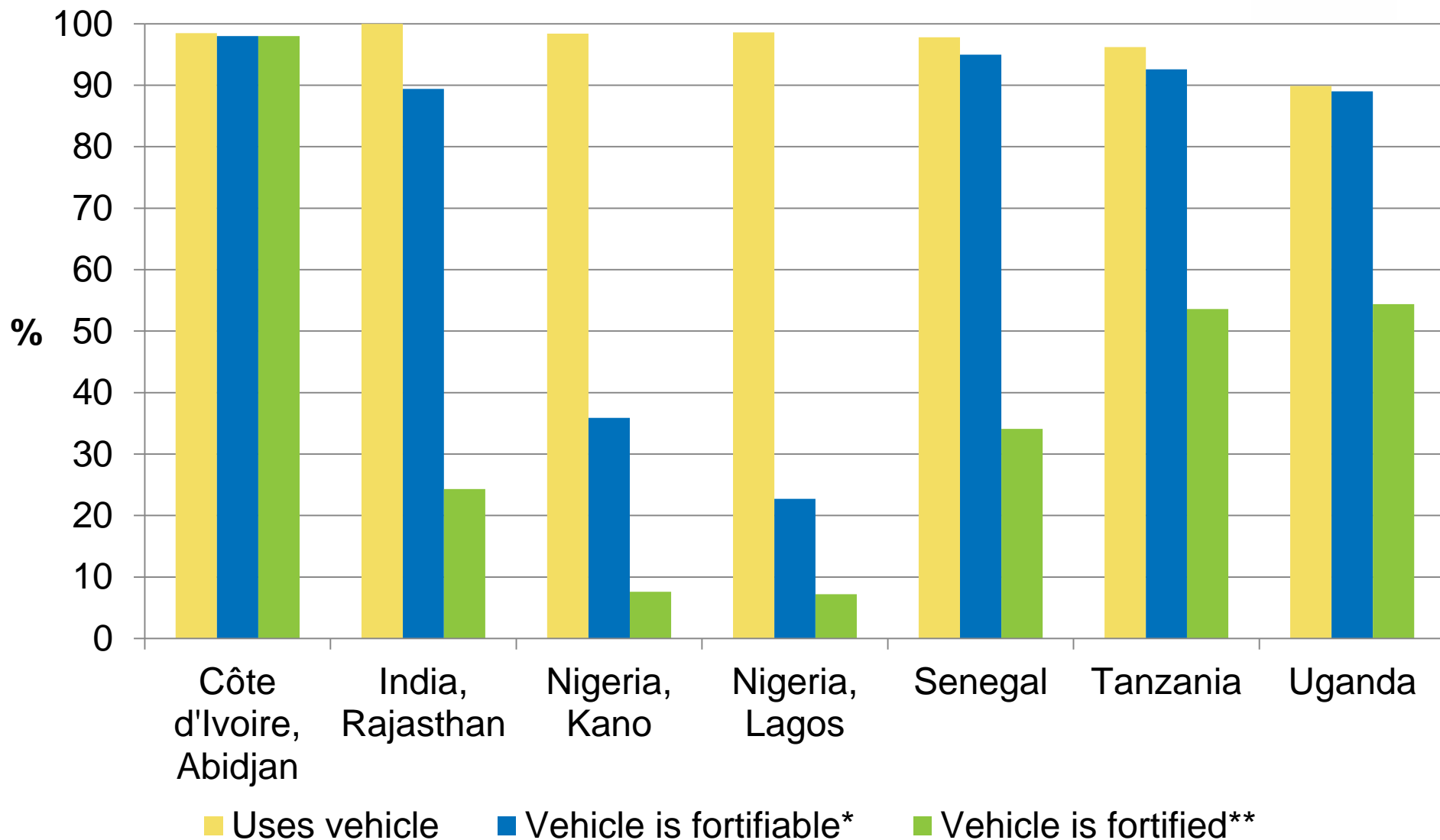
Coverage:

- **Consumes food vehicle**
 - At household and/or individual level
- **Consumes fortifiable food vehicle**
 - Commercially produced (i.e. not made at home)
- **Consumes fortified food vehicle**
 - Actual food at point of consumption/purchase was fortified (confirmed by laboratory analyses of samples from households and/or markets)

Dietary contribution:

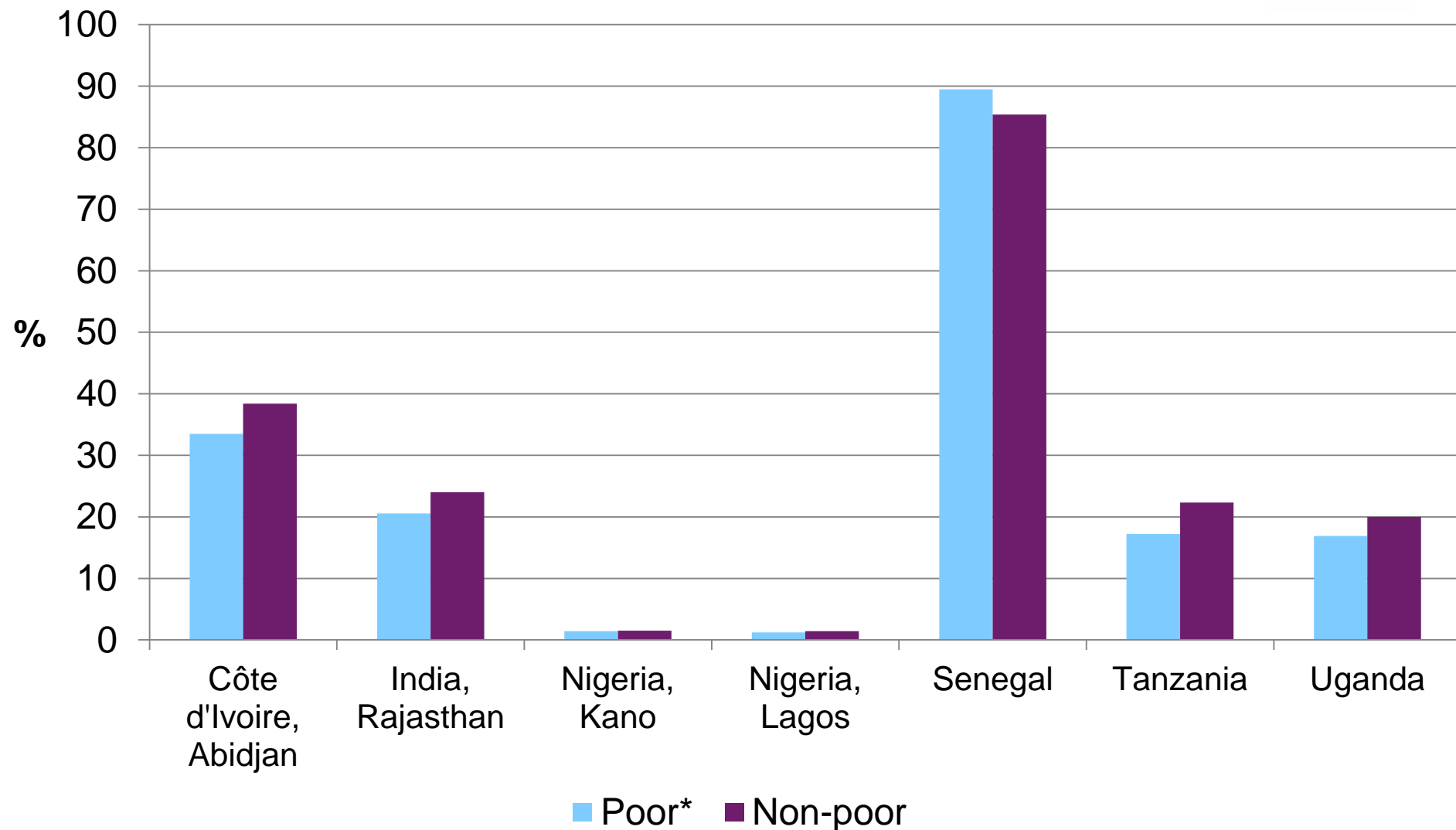
- **% daily recommended nutrient intake (RNI) from fortified food vehicle among target population, e.g. women of reproductive age (WRA) and children (<2 or <5 years)**
 - Average amount of food vehicle consumed per day from modified dietary recall
 - Average amount of nutrient in food vehicle from household and/or market samples

Coverage of oil at household level

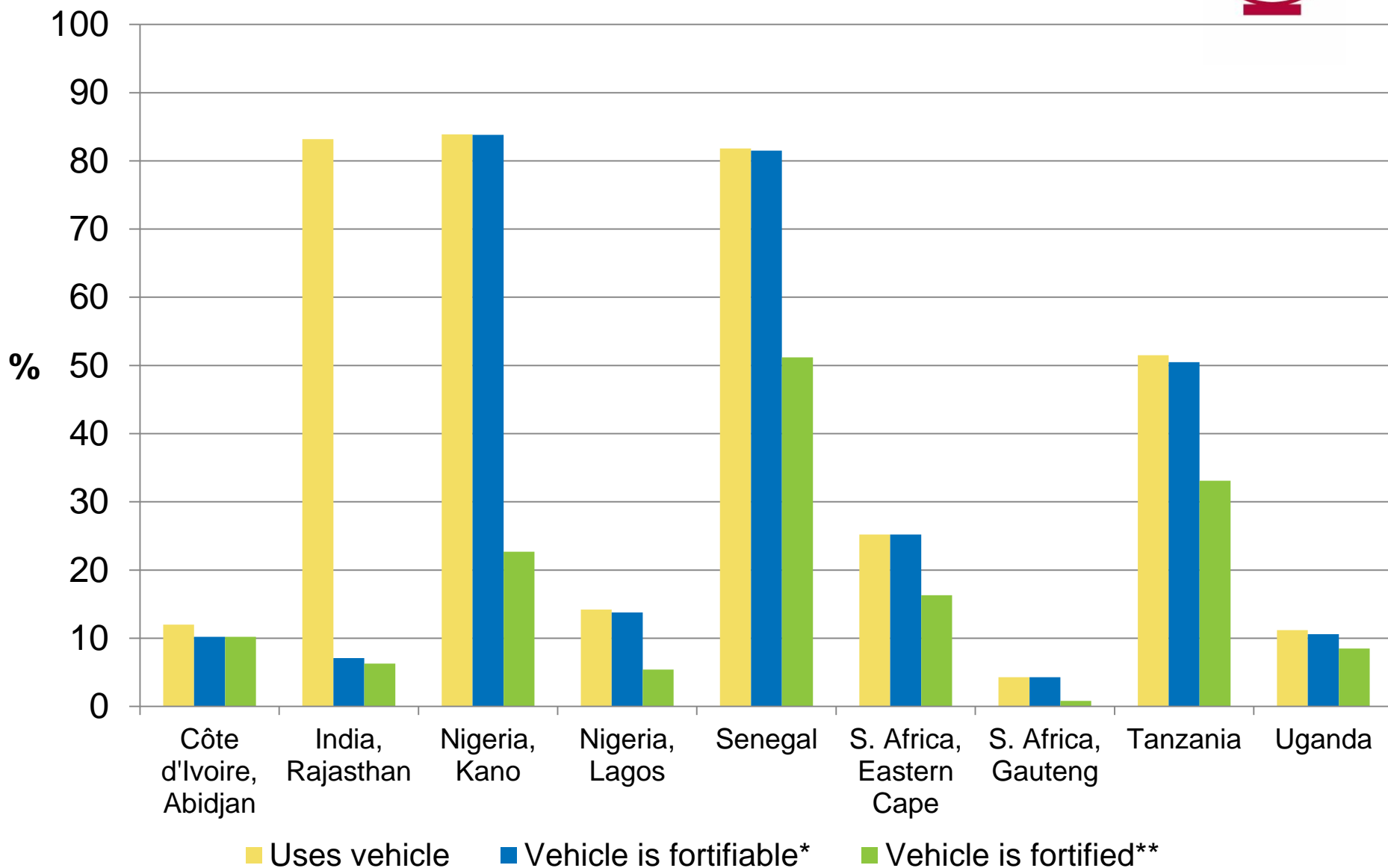


*Defined as commercially produced; **Vitamin A present at any level

Dietary contribution (% daily RNI) for vitamin A met by consumption of fortified oil among WRA by poverty

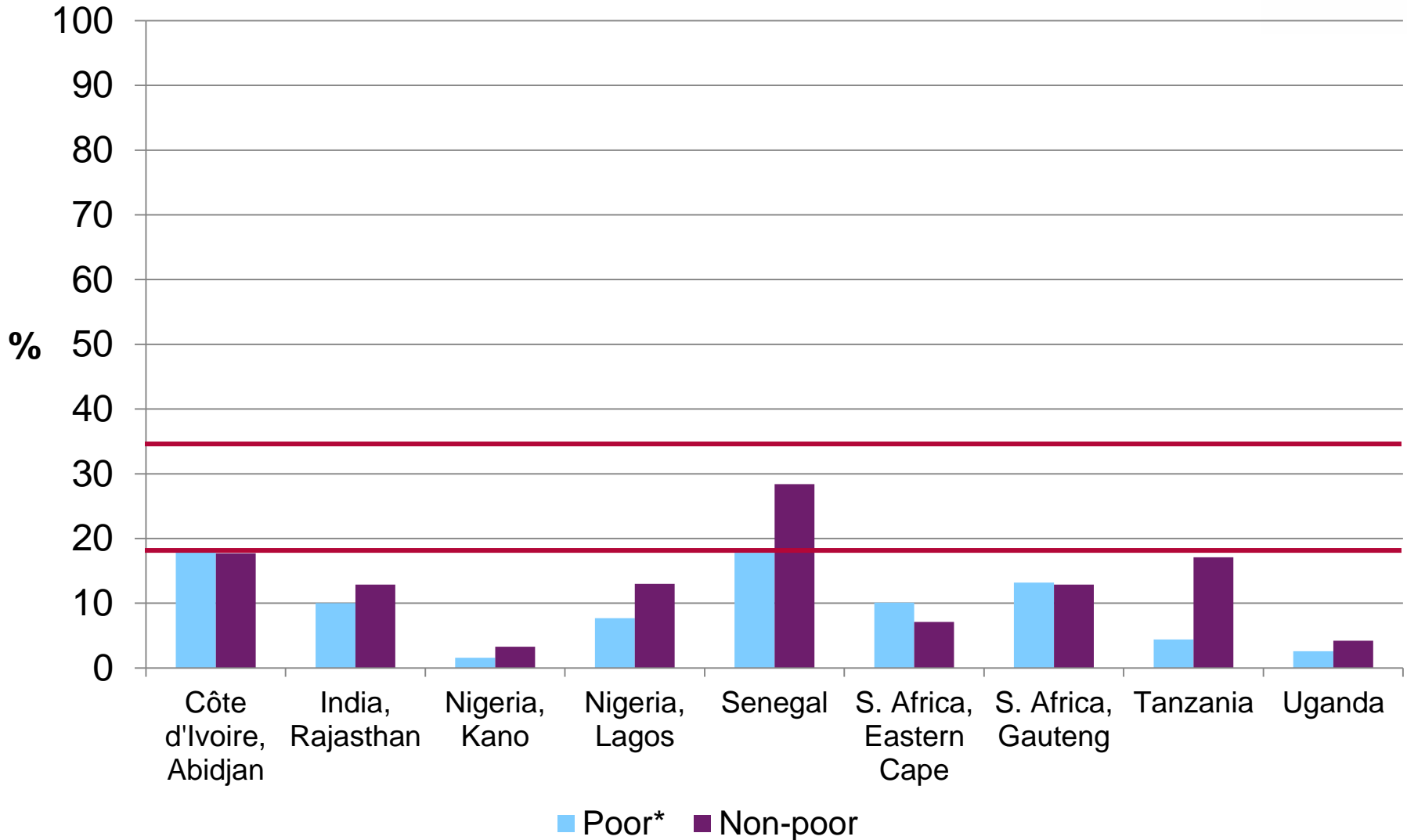


Coverage of wheat flour at household level



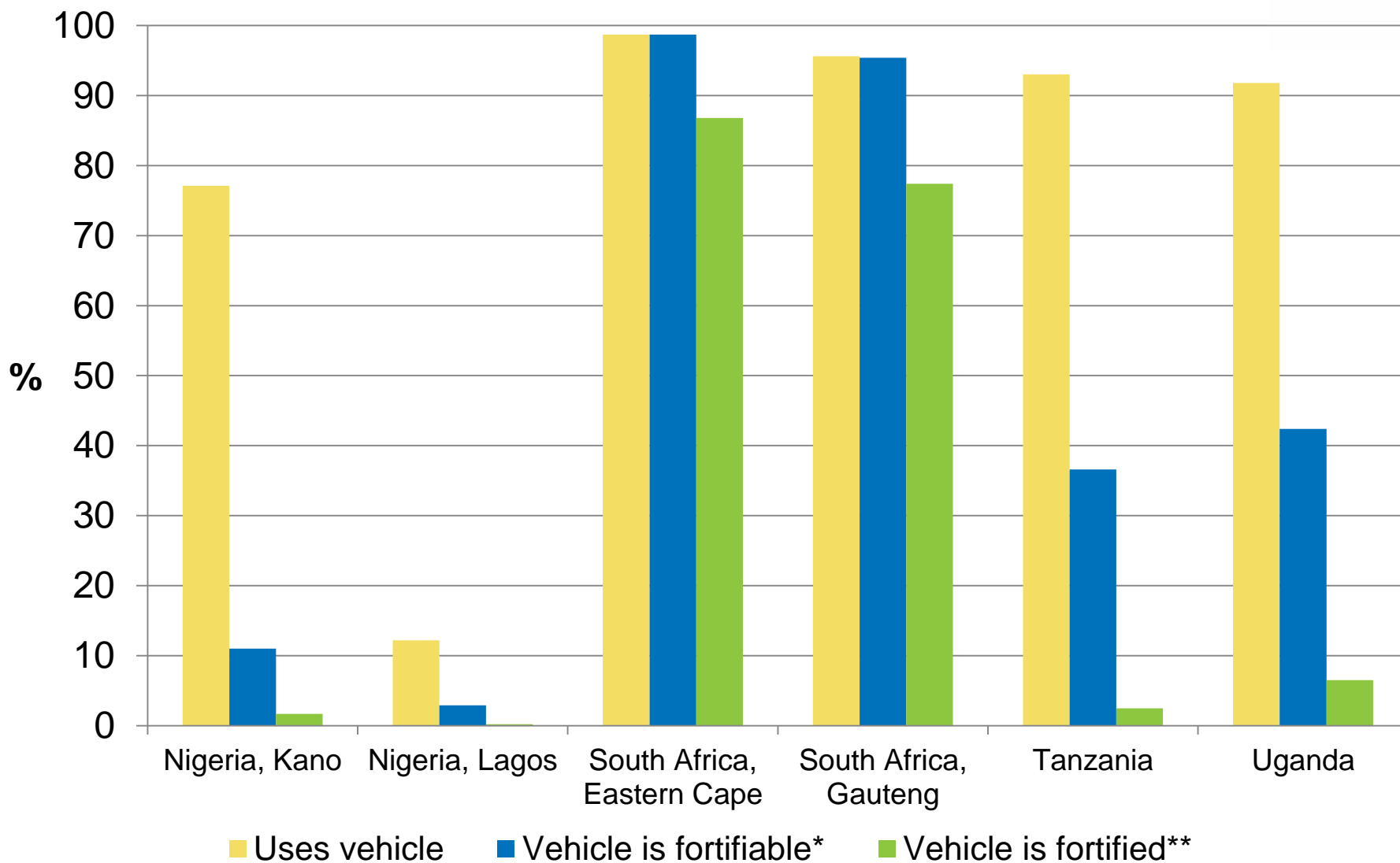
*Defined as commercially produced; **Iron present at any level above intrinsic level

Dietary contribution (% daily RNI) for iron met by consumption of fortified wheat flour among WRA by poverty



RNI, recommended nutrient intake; WRA, women of reproductive age; *Multidimensional poverty index (MPI) ≥ 0.33; Red lines represented expected contribution following recommended fortification levels set by World Health Organization

Coverage of maize flour at household level

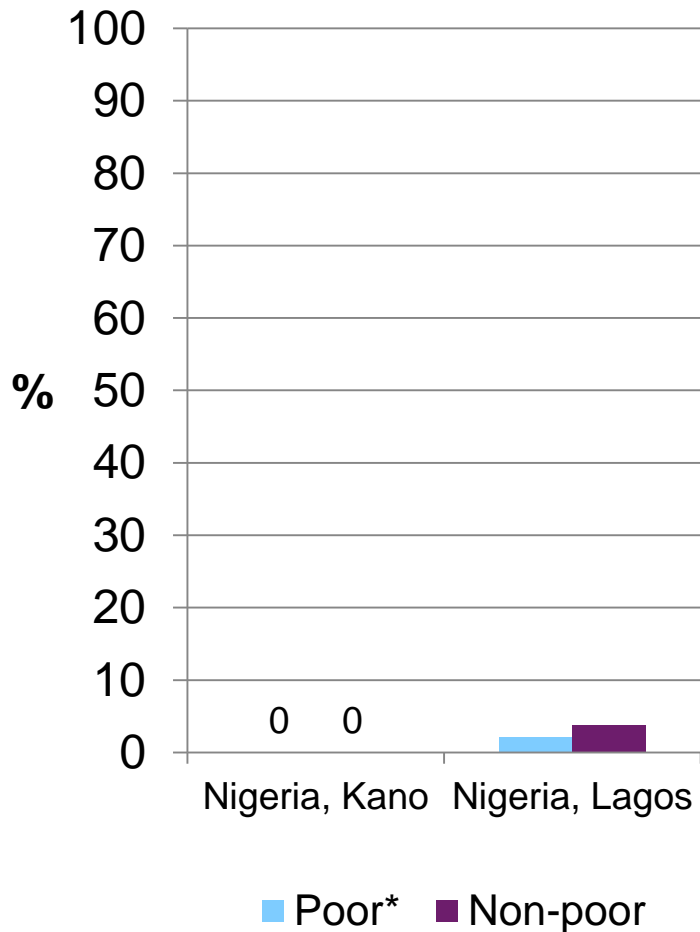


*Defined as commercially produced; **For Nigeria, vitamin A present at any level. For South Africa, Tanzania and Uganda, iron present at any level above intrinsic level

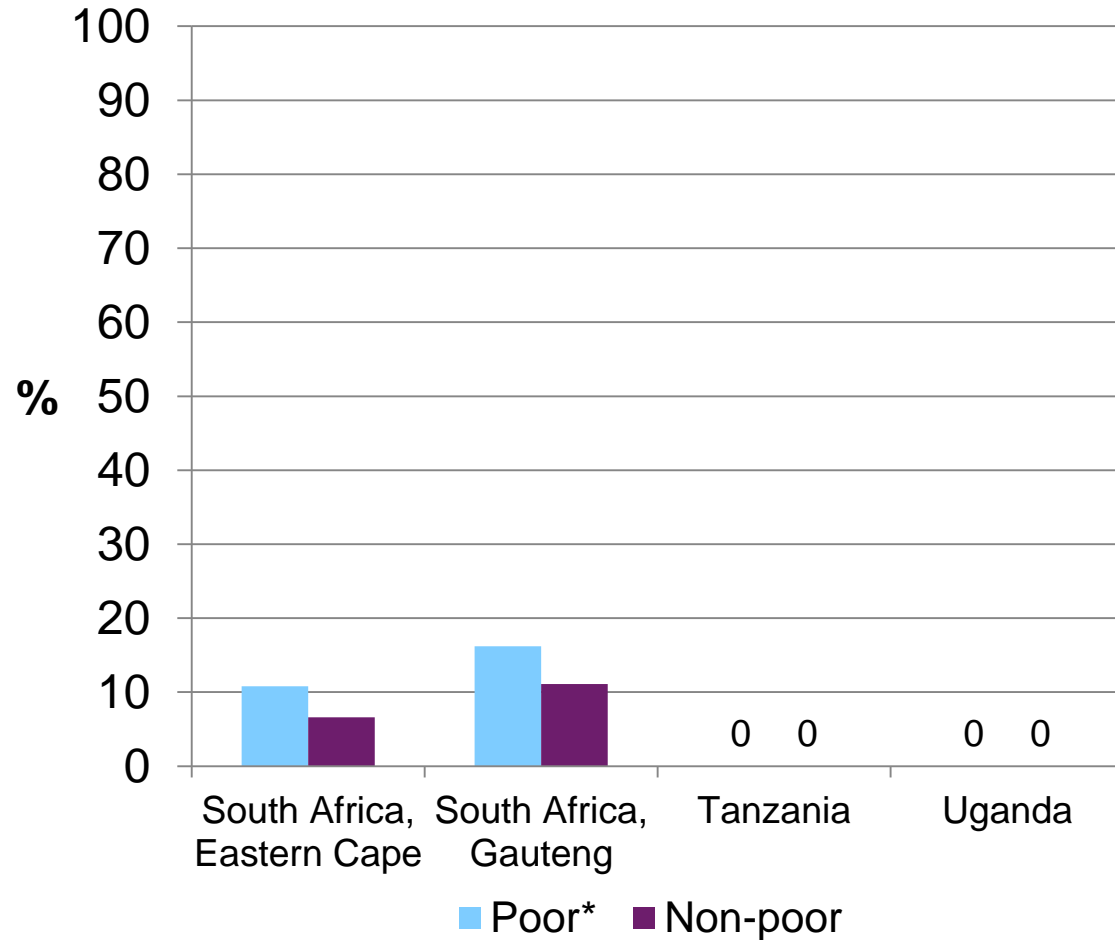
Dietary contribution (% daily RNI) for vitamin A or iron met by consumption of fortified maize flour among WRA



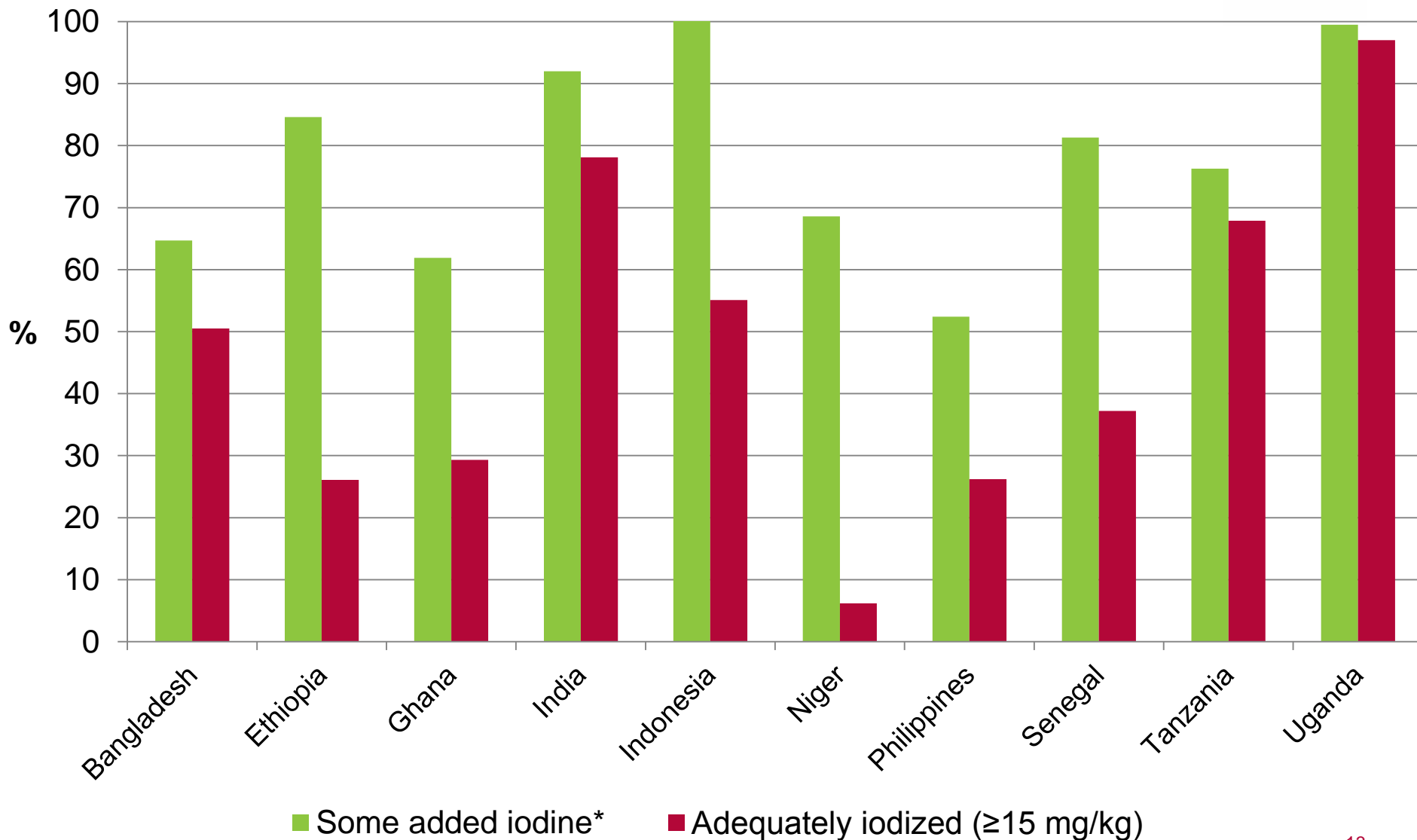
% RNI for vitamin A



% RNI for iron



Coverage of iodized and adequately iodized salt at household level





Limitations and areas of on-going work

- **A true measure of “*effective coverage*” requires an estimate of the dietary gap in micronutrient intake that we wish to address with fortification**
 - Currently, exploring options using simplified dietary assessment methods
- **Strengthen linkages between market/retail and household monitoring assessments**
- **Explore application of FACT in more comprehensive monitoring or surveillance systems**
- **Disseminate FACT toolkit in public domain**

Conclusions and implications for food fortification



- Food fortification programs can achieve high coverage and potential for impact among at-risk populations when there is appropriate:
 - Program design (i.e. appropriate vehicles are selected), and
 - Program implementation (i.e. regular monitoring and enforcement of standards to ensure fortification occurs)
- FACT fills an important gap in the availability of standardized, fit-for-purpose tools to assess coverage and generate data for program decision making during program implementation

- *Critical to know coverage and consumption patterns in the population to estimate potential for impact*
- *Investment in regular monitoring, enforcement and continual feedback for program improvement is essential for impact and safety*



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