

# MULTI-SECTORAL NUTRITION

Global Learning and Evidence Exchange

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## Dietary Diversity for Human Development and Health

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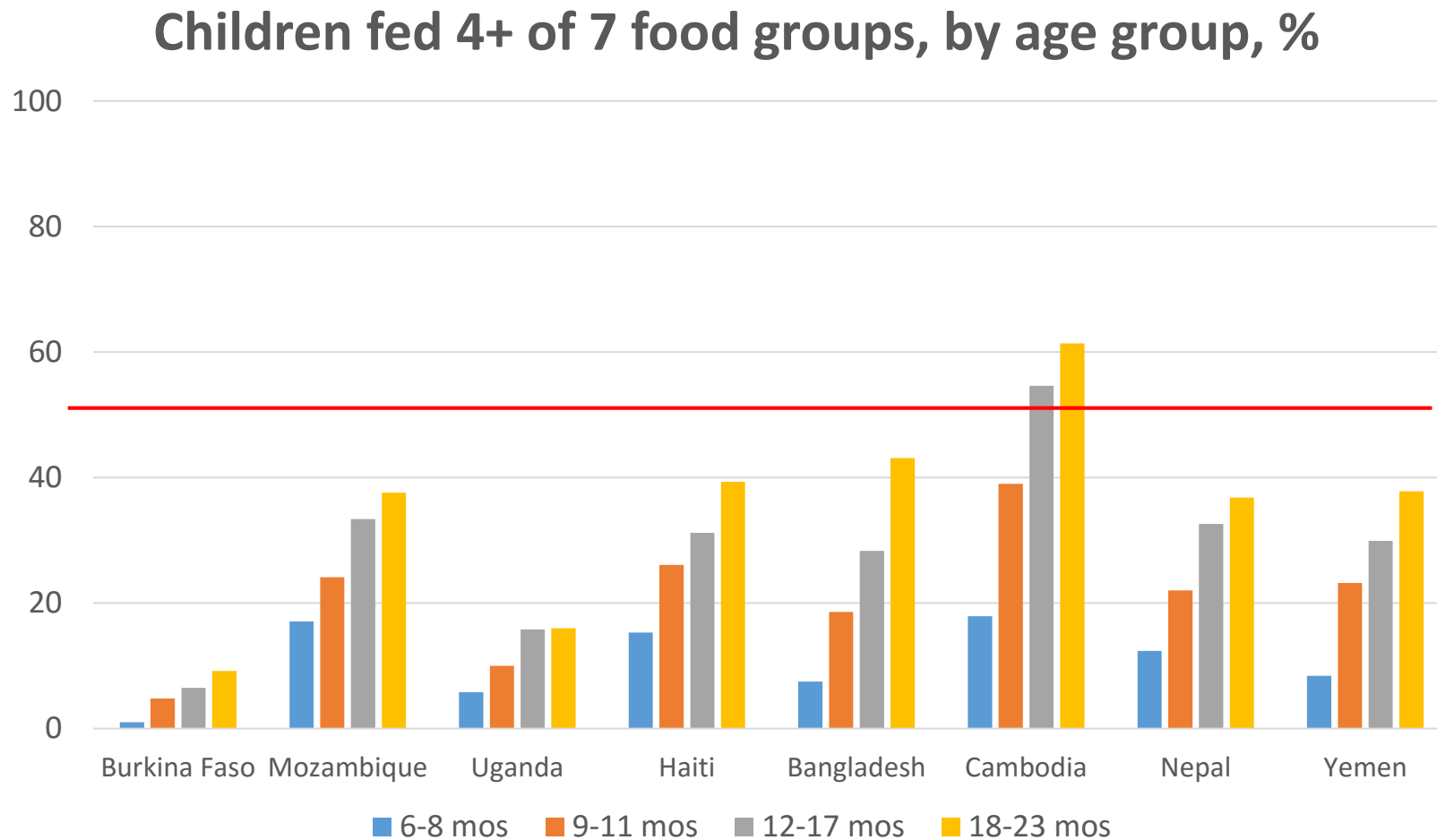


# Introduction: What is the issue?

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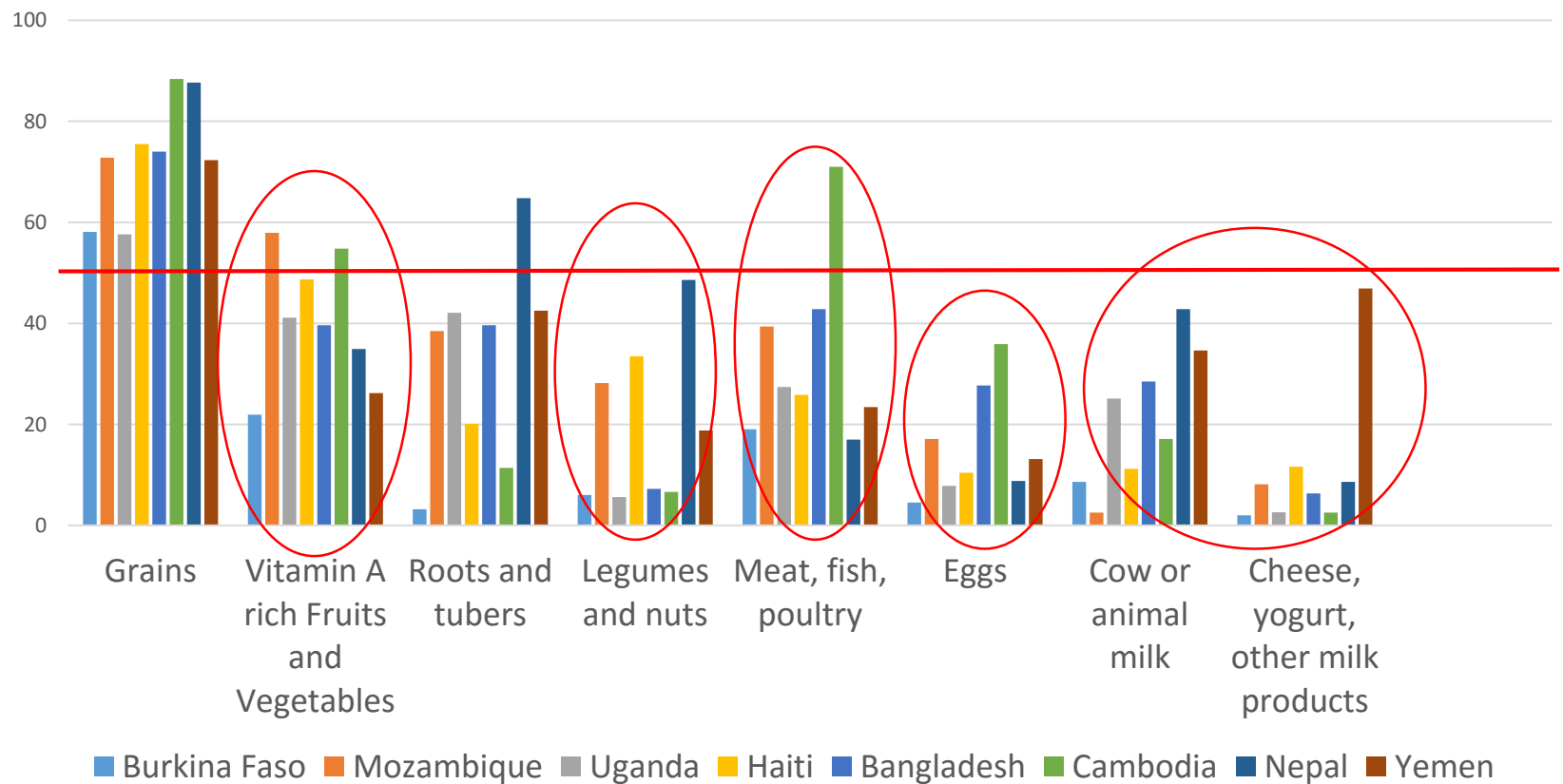
- Lack of diversity in dietary intake is a serious problem among young children and women of reproductive age in developing countries

# Introduction: What is the issue?



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Breastfed children 6–23 mos provided foods from following food groups, %



# Introduction: Why does it matter?

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- Dietary diversity is significantly associated with height for age z-score and growth among young children (Arimond & Ruel, 2004; Steyn et al 2006; Buser et al 2016; Marriott et al 2012; Onyango et al 2013)
- Dietary Diversity is a good predictor of dietary micronutrient density and micronutrient intake among young children 6-23 (Moursi et al., 2008; Steyn et al 2006, Kennedy et al 2007; Wondafrash et al 2016)
- Dietary diversity has been shown to be predictive of child motor and language skills (Iannotti et al 2016)

# Introduction: Why does it matter?

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- Women's dietary diversity have been shown to be significantly associated with reduced anemia (Weigel et al, 2016, Zerfu et al 2016)
- Women's dietary diversity has been shown to be significantly associated with reduced low birth weight and preterm birth (Zerfu et al 2016)

# Contribution of DD to WHA Targets

World Health Assembly Targets	Contribution of dietary diversity to target
40% reduction in the number of children under 5 who are stunted	Improved dietary diversity among young children contributes to decreases in stunting
50% reduction of anemia in women of reproductive age	Improved dietary diversity in pregnancy may contribute to reductions in anemia
30% reduction in low birth weight	Improved dietary diversity in pregnancy may contribute to reductions in low birth weight

# Gaps related to dietary diversity

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- Major gap - lack of national and sub-national data on what people eat, especially women
- Need for more information on relationships between women's dietary diversity and health/nutrition outcome measures
- Diet-related indicators related to obesity and overweight are also needed
- Still need solid information on determinants of dietary diversity and what works to improve it



# Initiatives to fill gaps

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- International Dietary Data Expansion (INDDEX) Project:  
<http://inddex.nutrition.tufts.edu/project-overview>
- Global Dietary Database (GDD):  
<http://www.globaldietarydatabase.org/the-global-dietary-database-measuring-diet-worldwide.html>

# Initiatives to fill gaps

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- FAO/WHO Global Individual Food Consumption Data Tool (FAO/WHO/GIFT):  
<http://www.fao.org/nutrition/assessment/food-consumption-database/en/>
- Indicators of Affordability of Nutritious Diets in Africa Project (IANDA):  
<http://immana.lcirah.ac.uk/node/367>
- Innovative Methods and Metrics for Agriculture and Nutrition Actions (IMMANA):  
<http://immana.lcirah.ac.uk/>

# Improving DD in Guatemala

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Source: INCAP, 2012



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# Optifood FBRs after Validation (TIPS)

FBRs for Children 6–11 Months	FBRs for Children 12–23 Months	FBRs for Pregnant and Lactating Women
<p><b>1. Fortified porridge (<i>papilla</i>)</b> 1 dry Tbsp. 5 times a week</p>	<p><b>1. Fortified porridge</b> 2 dry Tbsps. 4 times a week</p>	<p><b>1. Thick fortified drink</b> 2 dry Tbsps. each day</p>
<p><b>2. Black beans</b> 2 Tbsps. 3 times a week</p>	<p><b>2. Black beans</b> 2 Tbsps. 4 times a week</p>	<p><b>2. Liver</b> 3 ounces once a week</p>
<p><b>3. Egg</b> ½ egg 3 times a week</p>	<p><b>3. Egg</b> 1 egg 4 times a week</p>	<p><b>3. Vegetables</b> 2 servings a day</p>
	<p><b>5. Green leafy vegetables</b> 4 times a week</p>	

# Families' Challenges with FBRs

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- Financial access principal challenge for some FBRs due to cost
- Beliefs and practices – providing children the broth (bean or vegetable broth), not the food; portion sizes felt to be too large; perception of child rejection of food
- Lack of adequate home production of foods
- Influence of mothers-in-law/husbands

# Considerations: National Level

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- Strengthen family agricultural programs to improve access to FBR foods
- Strengthen government programs for fortified cereals and micronutrient supplements
- Review formulation of fortified cereals (e.g., Incaparina, Vitacereal) to optimize levels of problem nutrients like iron, zinc, B12
- Explore safety nets to expand access to FBR foods that fill nutrient gaps in the diet

# Considerations: Community/HH Level

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- Promote optimal child feeding: highlight child developmental phases and persistence to introduce textures and appropriate quantities
- Include whole family in FBR promotion, including the mother-in-law and the husband
- Support optimal use of fortified cereals with recipe demonstrations of porridge
- Promote food hygiene practices related to FBRs (e.g., well-cooked egg)

# Considerations: Community/HH Level

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- Support household production of FBR foods (drought resistant varieties of beans, raising chickens, growing DGLV)
- Support market access e.g., transportation, distribution, mobile butchers, etc., for regular access to fresh foods and storage
- Promote prioritization of household spending on diverse nutritious foods



# Key Takeaways

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- We must improve dietary diversity among children and women to prevent stunting and improve health and development outcomes
- Although there are important gaps in available data on dietary diversity and its use, there are also important initiatives to fill these gaps
- The Optifood tool identified nutrient gaps in the diets of children and PLW in Guatemala and FBRs to fill gaps, but constraints must still be overcome through national and local initiatives

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