Understanding drivers of food choice:

What, how, and why do people eat the way they do?

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Drivers of Food Choice
Competitive Grants Program

BILL & MELINDA GATES foundation

Foreign, Commonwealth & Development Office

UNIVERSITY OF SOUTH CAROLINA
Arnold School of Public Health

What is Food Choice?

Food choice encompasses the processes by which individuals and households decide

- What, how, and why to acquire, store, prepare, distribute, and consume the food they eat

Rapidly Changing Food Environments

- Urbanization
- Livelihood change
- More foods are
  - Purchased
  - Perishable
  - Processed
  - Prepared
- Transformation is broad

http://ilsi.org/wp-content/uploads/2017/01/1_Tschirley_Urbanization-food-systems-and-the-diet.pdf

https://www.voanews.com/a/as-african-supermarkets-spread-study-finds-traditional-markets-just-as-safe/2614979.html

Sustainable Healthy Diets

- Hindered by limited knowledge of how changes in the food environment impact food choice

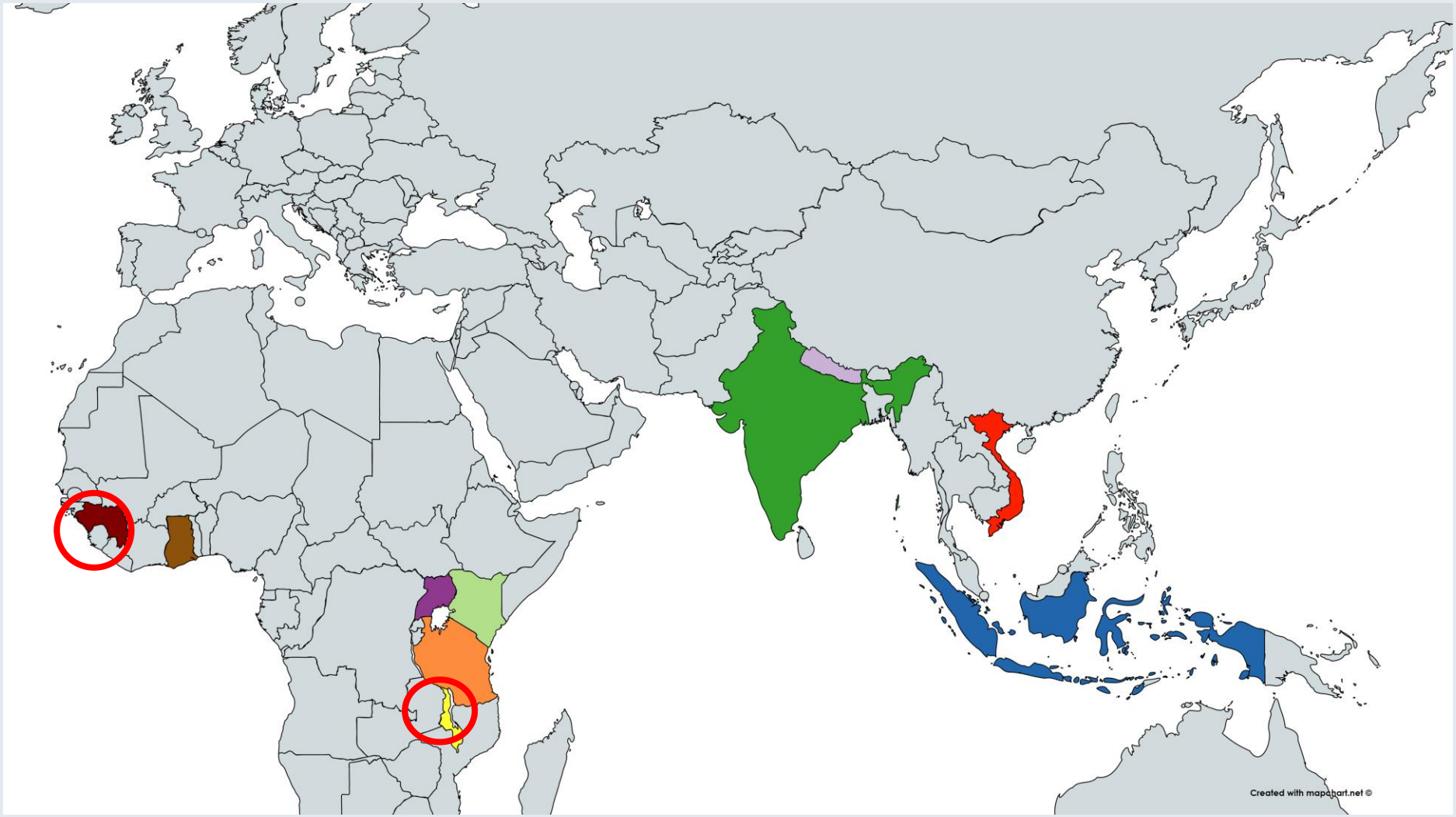
Objectives

Describe study designs and corresponding methods useful for understanding drivers of food choice in settings experiencing changes in livelihoods and food environments

DFC Competitive Grants Program Purpose

- Facilitate, synthesize and disseminate research to provide a deep understanding of the drivers of food choice among the poor in developing countries in South Asia and Sub-Saharan Africa

15 Projects in 10 countries



http://www.driversoffoodchoice.org/

Physical and Economic context of the Food Environment

***WHAT*?**

Dietary intake

Available -- Consumed

Political and Socio-cultural context of the Food Environment

HOW?

Food Choice Behavior

Acquire, Store, Prepare, Distribute, and Consume

WHY?

Food Choice Decision-making

Unconscious, Routine, Habit, Value negotiations, Trade-offs

Causal Food Choice Drivers

Cost, Convenience, Distance, Time, Nudges, Identity, Preferences, Family, Health, etc.

Example 1: Guinea

Objective: "Depict how artisanal mining livelihoods impact food choices, with a particular focus on the choices women make for themselves and their young children."

Rolf D.W. Klemm (PI), DrPH, Helen Keller International
Peter J. Winch, MD, MPH, Johns Hopkins
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Alpha Oumar Barry, PhD, Université Julius Nyerere de Kankan

https://driversoffoodchoice.org/wp-content/uploads/2020/09/Klemm.pdf

Example 1: DFC among Guinean Miners

Cross-Sectional
Mixed Method Design

Population:
- 18 mining sites in two districts in Kankan Region, North Eastern Guinea
- Women miners or wives/partners of miners who are caretakers of children < 5 years
- Young single miners (male or female)
- Food vendors

Quantitative:
- Market surveys (n=4)
  - 4 rounds covering 4-7 markets
- Cross-sectional household survey (n=613)

Qualitative:
- Mining site observations (n=10)
- Food preparation observations (n=25)
- In-depth structured interviews
- 24-hour recall (non-quantitative)

WHAT?
- Dietary intake of women and children
- Food availability, price, vendor and product properties

HOW?
- Crop production and livestock raised
- Food acquisition and shopping practices

WHY?
- Accessibility and Affordability
- Convenience
- Desirability
- Decision-making for food purchases and spending (with regards to gender dynamics)

Example 1: Guinea Miners Key Takeaways

What?

- Diets for women and children were poor
  - 23% of women and 21% of children meeting minimum dietary diversity
- 28% of households were severely food insecure
- Mining households limited access to food from their own production
- Nutrient-dense non-staple foods scarce and pricey

How?

- Some participants chose to fast during work hours
- Families dependent on markets that sell processed and packaged foods at levels higher than expected in rural areas
- Women undertake majority of hh and caregiving work plus substantial mining work

Why?

- A key driver of poor diets is income instability
- Income instability a challenge for healthy diet, exacerbated by gender inequities
- Societal expectations around gendered roles place heavy burdens on women's time
- Food safety concerns drive food choice and food availability

Zhang LX, Koroma F, Fofana ML, Barry AO, Diallo S, Songbono JL, Stokes-Walters R, Klemm RD, Nordhagen S, Winch PJ. Food Security in Artisanal Mining Communities: An Exploration of Rural Markets in Northern Guinea. *Foods*. 2020;9(4):479.

"Young-Child Feeding in Challenging Settings: A Case Study in Artisanal Mining Families in the Republic of Guinea" By Klemm R, Nordhagen S, Winch P. Current Developments in Nutrition, Volume 4, Issue Supplement_2, June 2020, Page 714 - https://doi.org/10.1093/cdn/nzaa051_011

Example 2: Malawi

Objective: "Identify and explain predictors of dietary intake and food choice among Malawian mother-child dyads containing an overweight mother, child, or both."

- **Valerie Flax (Co-PI),** PhD, RTI
- **Chrissie Thakwalakwa (Co-PI),** PhD, Sci, University of Malawi
- **Lindsey Jaacks**, PhD, Harvard University
- **John Phuka**, MBBS, PhD, University of Malawi

https://driversoffoodchoice.org/wp-content/uploads/2020/10/Flax.pdf

Example 2: DFC among Malawian Mothers

Longitudinal
Mixed Methods Design

Participants:
- Urban and rural mother-child dyads (n=274)
- Mothers: ≥18 years; children: 6 mo. - 5 years

1. Overweight mother-overweight child (urban: n=37; rural: n=37)
2. Overweight mother-normal weight child (urban: n=63; rural: n=57)
3. Normal weight mother-overweight child (urban: n=38; rural: n=42)

Quantitative:
- Surveys with mothers
- Household food logs

Qualitative:
- In-depth interviews
- Drivers of food choice pile sort
- Market trip observations

WHAT?
- Dietary intake (mothers and children)
- Food insecurity
- Morbidity

HOW?
- Infant and young child feeding practices
- Food shopping practices

WHY?
- Affordability, Convenience, and Desirability
- Taste preference
- Body size preferences
- Intrahousehold decision making
- Gender related factors

Example 2: Malawian dyads Key Takeaways

What?

- Compared to dyads with a normal weight child, dyads with an overweight child had
  - higher % of calories from carbohydrates and intake of grains
  - lower percent of calories from fat and intake of oils/fats

How?

- 83% shopped only at outdoor markets, 9% at outdoor markets and shops/groceries, and 8% only at shops/groceries.
  - Mainly relish to accompany stiff maize porridge (nsima), the staple food
- Other foods purchased were fruit (21%), sweets (13%), Kamba puffs (12%), fried snacks (8%), and sugar-sweetened drinks (6%).
- 60% of mothers bought foods specifically for their young child during the market trip
  - Usually sweets, packaged snacks, fruits, or fried foods

Why?

- >50% of mothers wanted their child to be larger, regardless of current weight status
- Child age, maternal body size preferences, maternal taste preferences, food quality, cost, household food security, and spending on "special" foods for children were the most consistent predictors of food group consumption for mothers and children.

Bliznashka L, Danaei G, Fink G, Flax VL, Thakwalakwa C, Jaacks LM. (2020). "Cross-country comparison of dietary patterns and overweight and obesity among adult women in urban Sub-Saharan Africa. " *Public Health Nutrition*, 1-11; Flax VL, Thakwalakwa C, Phuka JC, Jaacks LM. (2020). "Body size perceptions, body size preferences, and food choice among mothers and their children in Malawi." *Maternal & Child Nutrition.*; Flax VL, Thakwalakwa C, Schnefke CH, Phuka JC, Jaacks LM. (2021). "Food purchasing decisions of Malawian mothers with young children in households experiencing the nutrition transition." *Appetite, 156, 104855, in press.*

Conclusions

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Implications

- Countries seek to simultaneously address sustainable healthy food choices that prevent undernutrition and obesity and chronic disease
- Understanding drivers of food choice necessary for promoting sustainable healthy diets
- Interdisciplinary research teams with adequate and complementary expertise in quantitative and qualitative research methods are essential

Food Environment Research Priorities

1. What are community priorities for their local food environments and how can public-private partnerships best serve these needs?
2. How can communities ensure access to safe, healthy, convenient foods and beverages and limit reliance on low-cost unhealthy processed foods, especially for families who have limited time for food preparation?
3. What innovations are most promising to stimulate demand for sustainable healthy diets?

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