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The Malawi Food Composition Database (MAFOODS):

Importance, development process, applications, and future priorities

October 21, 2020

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WELCOME TO ZOOM WEBINAR

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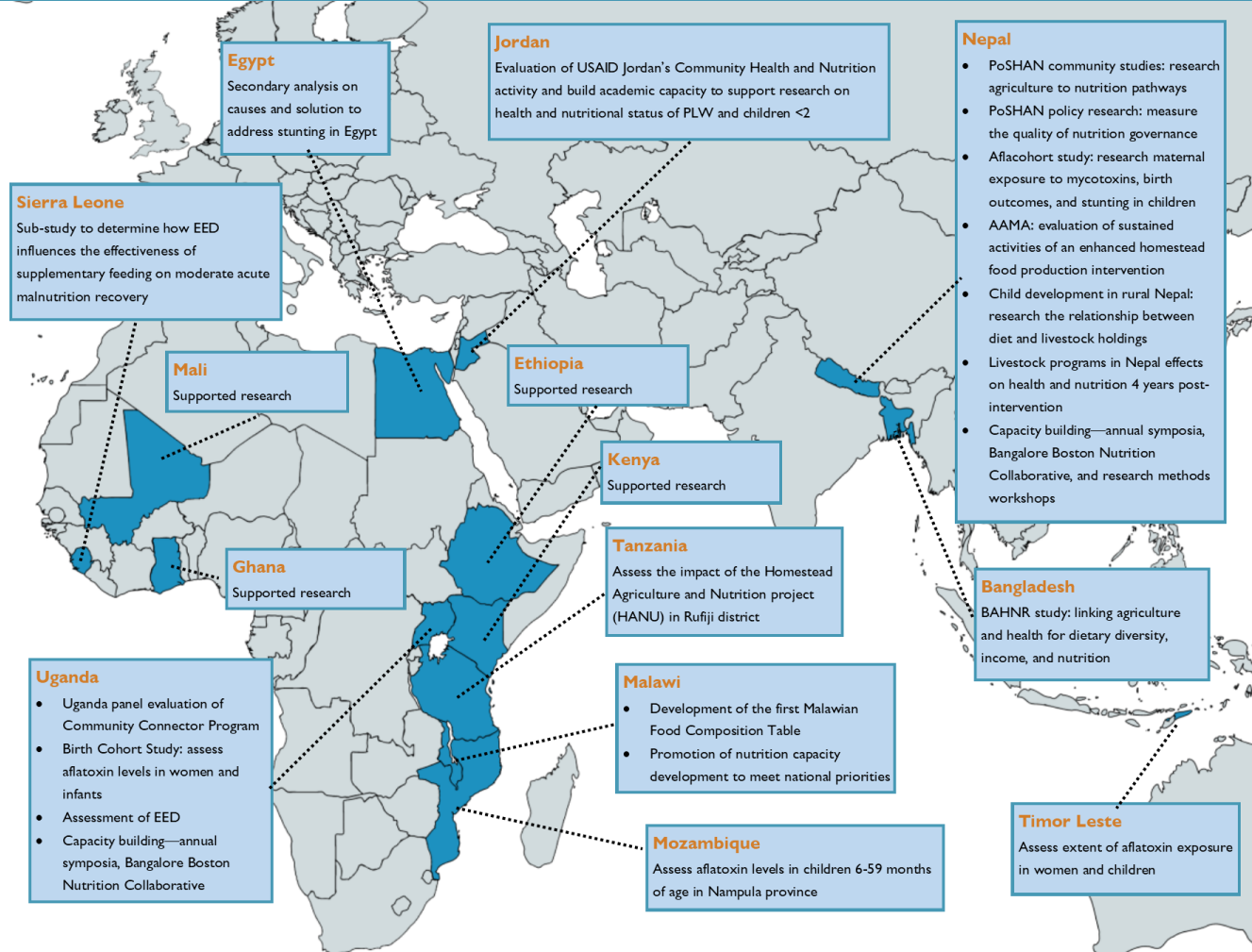
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Bill & Melinda Gates Foundation

UK Aid through the CANDASA project (OPP1182628)

Anna Herforth, Yan Bai, Luc Christiaensen and Patrick Webb

South African Medical Research Council

Feed the Future Innovation Lab for Nutrition

Malawi

Lilongwe University of Agriculture and Natural Resources

Department of Nutrition, HIV and AIDS, Malawi



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WEDNESDAY, OCTOBER 21ST,
9:00AM - 10:30AM (ET)



AVERALDA VAN GRAAN

South African Medical
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INNOVATION LAB FOR NUTRITION WEBINAR SERIES

The Malawi Food Composition Database (MAFOODS):

Importance, development process,
applications, and future priorities



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Reflecting on the Development and Establishment of a Food Composition Database and System for Malawi: From scoping, to publication and beyond

October 21, 2020

Averalda van Graan¹, J Chetty¹, M Links¹, S Masangwi², A Mwangwela², LM Ausman³, E Marino-Costello³ & S Ghosh³

¹ South African Medical Research Council, ² LUANAR University, ³ Tufts University

OUTLINE

- Introduction
- Dawning: The project process
- Phase I: Scoping
- Phase II: Capacity Building & Data Collection
- Phase III: Compilation - data quality: assessment, checks & assurance
- Phase IV: Sustainability
- Publication: of the food composition database and tables
- Reflecting on highlights and challenges
- Conclusion



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INTRODUCTION

EDITORS' PICK | 7,216 views | Jul 31, 2020, 11:55pm EDT

The Latest Trends In Immunity-Boosting: What Works And What Doesn't



Daphne Ewing-Chow Senior Contributor ©
Food & Drink

The pandemic has been accelerating demand for immunity boosting products and ingredients. Functional ingredients supplier, [Beneo](#) reveals that the coronavirus has caused 75 per cent of consumers to seek out healthier foods and beverages, and according to Google Trends data, searches for the combined terms, 'food' and 'immune system' skyrocketed by 670 per cent between February and March.

58,445 views | Mar 11, 2020, 12:30pm EDT

Want To Boost Your Immune System? A Healthy Diet Is An Important Start



Brian Kateman Contributor ©
Food & Drink
I write about sustainable and ethical technology and consumer trends.



10 Ways To Boost Your Immune System In Times Of COVID-19, According To SHA Wellness Clinic



Isabelle Kliger Contributor ©
Travel
I write about travel, culture and food.

1. Choose seasonal fruit and vegetables

Alfredo Bataller, founder of SHA Wellness Clinic: A balanced diet that includes plenty of fruit and vegetables, vitamin C and antioxidants helps reinforce the immune system and prevent disease. It's highly recommended to choose fruit and vegetables that are in season to ensure that they are as fresh and nutritious as possible.

2. Enjoy immune-boosting superfoods

Melanie Waxman, healthy nutrition expert: To keep the immune system in perfect working order, we should enjoy a diet based on fresh food that helps to maintain the balance of the intestinal microbiota. It should include whole grains, beans, seaweed (spirulina), nuts, seeds, green leafy vegetables, such as kale, onions, garlic, leeks and asparagus, and fruit, such as apples.



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INTRODUCTION

- Information about content of food and food composition has become very relevant
- Buzz words: Functional foods, immunonutrients
- Not all foods are created equal
- Nutrient/ component content perspective
- Composition of food varies due to
- Climate, soil type, season, maturity, biodiversity
- Storage, processing, fortification¹
- Highlights the importance of a relevant, reliable, country specific food composition database



INTRODUCTION

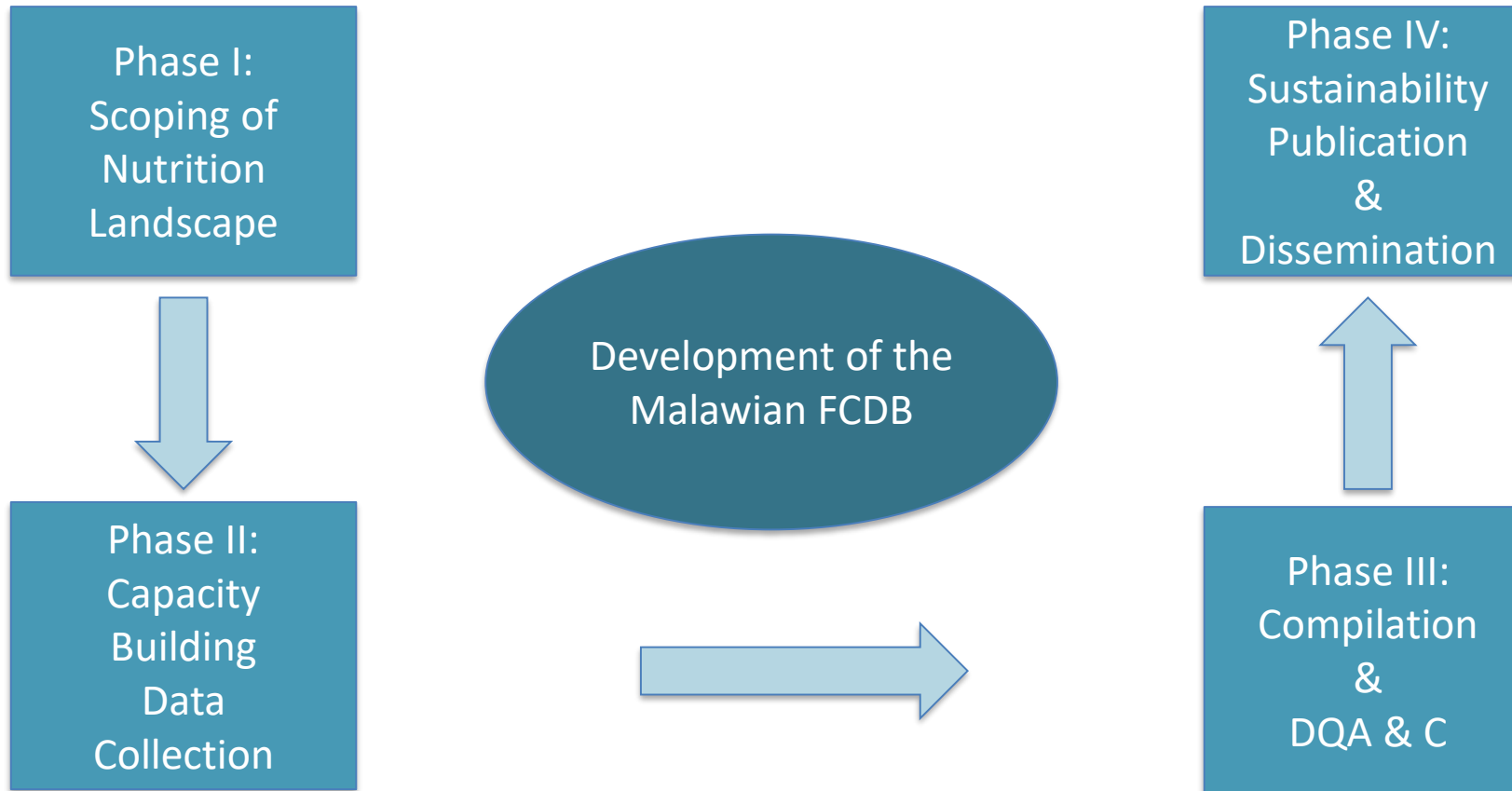
- A Country Specific Food Composition Database (FCBD) becomes crucial²
- To address nutrition concerns
 - by means of nutrition practice & research,
 - programme implementation or
 - community based strategies
 - policy and nutrition surveillance
- Against this background and in the
- Absence of a FCDB in the Country
- The collaboration was initiated to establish a FCDB for Malawi



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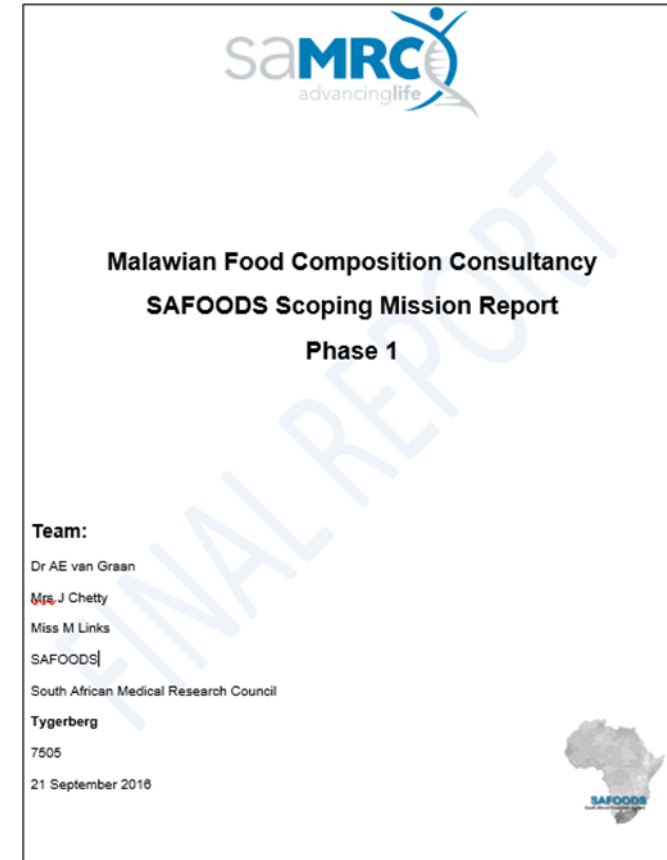
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THE PROCESS



PHASE I: SCOPING

- Assess the nutrition landscape:
- Nutritional concerns, policies,
- Activities and research
- Key stakeholders in the nutrition fraternity
- Data generators or users
- Possible food composition data &
- Compilation activities
- Desk top research
- Electronic repository
- Background information





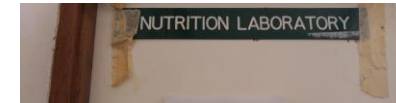
PHASE I: SCOPING

- Scoping: Initial and follow up
- Interviews, meetings, and visits
 - Academic Institutions, Departments
 - Research Centers, Governmental Ministries
 - Bureau of Standards, International Agencies
 - Food Companies and producers
 - National stakeholder meeting
 - Hospital, local markets, food stores
- Culminated in scoping report
- Strengths, weaknesses, opportunities, threats
- Guided and informed





SCOPING





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PROJECT PLAN IMPLEMENTATION WORKING DOCUMENT

	Activities	Time Frame	Person/s Responsible (SAFOODS)	Malawian Stakeholder	Actions required	Progress to date
5	Data manager appointment	2 months	Averalda van Graan	Agnes Mangwela	<ul style="list-style-type: none"> Advert to be placed Compile short list Interviews Appointment 	?? Decision
6	Collection of compilation (nutrient) data	3 – 4 months	Averalda Van Graan	Sitilitha Masangwi	SAFOODS to share all information gathered with Sitilitha	Refer to:
			Joelaine Chetty	Agnes Mangwela	SAFOODS to construct a To-Do List for Sitilitha in terms of information that is required	Compiled to-do list
	Collection of food compilation data in relation to identified priority areas		Malory Links		Identification of nutrients important for compilation	Priority Food List
	E.g. The 6 major food groups + 2			<u>Possible Data Generators</u>	Sitilitha to collect research information/CoA's and all relevant data from all possible data generators	Ongoing
	1. Vegetables			Dr Alexander Phiri	Assessment of data collected in terms of applicability	
	2. Fruit			Dr Maxon Lowole	Assessment of the gaps in compilation data for certain	
	3. Legumes and Nuts			Dr Tinna Manani	Assessment of the need for additional food groups for compilation	
	4. Animal Foods (Fish, chicken, meat, eggs, milk)			Mr Richard Banda		
	5. Fats			Prof Jeremiah Kang'ombe		
	6. Staples			Innocent Manda		
	7. Miscellaneous			Dr Liveness Banda		
	8. Other			Dr Andy Safalaoh		
				Mrs Judith Kanyama-Chikoti		
				Mrs Kudakwashe Chimanya		
				Mrs Theresa Banda		
				Mrs Janet Guta		
				Jimmy Thombozi		
				Dr Alexander Kalimpira		
				Mrs Dalitso Kang'ombe		
				Mrs Violet Orchardson		
				Mr Andrew Chinguwo		
				Ms Noora-Lisa Aberman		
				Mr Sylvester Kathumba		
				Ms Stacia Nordin		
7	Organization and assessment of compilation data	1-3 Months	Joelaine Chetty	Sitilitha Masangwi	<ul style="list-style-type: none"> Development of Data Quality Assessment Tool First round of evaluation of data Second round Preparation of training material for compilation 	Completed Completed Completed Completed Ongoing
			Malory Links			
			Sitilitha Masangwi			
	Evaluation of food comp data		Averalda van Graan			



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PHASE II

Capacity development

- Recruitment of Food Composition Compiler
- Nutrition & Food Science graduate
- Appointment to start the food composition project in Malawi
- Based at LUANAR
- Training:
 - FAO/INFOODS e-Learning Course: Food composition Data
 - Experiential Learning:
 - 2 x 2-week visits to
 - SAFOODS, SAMRC Cape Town offices

PHASE II

Data collection

- Search scientific data, published, unpublished
- Added to the E-repository
- Visits to libraries of :
 - Academic institutions, Research Centres,
 - Post grad supervisor offices
- Guided by Priority Food list
- Compiled by Master students taking a FCD course
- Missing food items – additional information through
- Established nutrition platforms and workshops



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PRIORITY FOOD LIST

PRIORITY FOOD LIST TO INCLUDE IN THE MALAWIAN FOOD COMPOSITION DATABASE

	STAPLES		LEGUMES		ANIMAL FOODS		VEGETABLES	FRUITS	FATS AND OILS	MISCELLANEOUS
Cereals	Maize	Priority	Beans (common,Kidney)	Meat	Beef		Amaranthus	Mango	Vegetable Cooking oil (Water	
	Rice		Groundnuts		Goat meat (Chevon)		Pumpkin leaves	Banana	Avocado pears	Thobwa
	Sorghum		Soy beans		Pork		Tomato	Guava	Margarine	Maheu
	Millet		Pigeon peas (nandolo)		Mutton		Rape	Oranges	Meat fat	Tea with milk and sugar
	Wheat		Cow peas (Khobwe)		Beef Offals		Cabbage	Tangerines	Dried coconut	Black tea
	Quinoa		Bambara nuts (Mzama)		Rabbits		Cat's whiskers (luni)	Pineapple	Milk cream	Orange Juice
	Bread		Macadamia nuts		Liver		Chinese cabbage leave	peaches	Butter milk	Mango juice
	Scones				Fresh milk		Green beans	Pawpaw	Butter	Baobab fruit juice
	Roasted maize on cob		Hyacinth beans (Nkhungudzu)				Indian mastard (mpilu)		Animal fat	Tamarind fruit juice
	Nsima		Mung or green gram (Mphozo)		Powder milk		Beetroot	Passion fruit	Baobab oil	Guava juice
			Lima beans (Kamumpanda/Kabaifa)		Wild pig		Sweet potato leaves	Lemons		Tamarind juice
Roots and Tubers	Cassava	Others	Chickpeas(T chana)	Poultry	Chicken + Eggs		Blackjack (chisosos)	Watermelon		Chambiko
	Sweet potatoes		Sesame seeds (Chitowe)		Ducks + Eggs		Lettuce	Jujube (masau)		Samoosa
	potatoes		Lentils		Pigeons		Spinach	Tamarind (bwemba)		Zigege
	Yams		Cashew nuts (mbibu)		Quails + eggs		Peas green	Straberries		RUTF (Sibusiso)
	Cocoyams				Turkey		Okra	Mulberries		Sweet potato cake
	Plantains		Pumpkin seeds		Guinea fowl		Onion	Apples		Peanut butter
			Soy pieces		Small birds		Pumpkins leaves	Coconut		Soy milk
Imported	Spaghetti		Velvet beans (Kalongonda)				Mushrooms	Custard apple		Nyama khobwe (snacks)
	Macaroni			Fish	Tilapia		Moringa leaves	Plums		Sponge cake
	Noodles	Recipes	Bean Stew		Cat fish		Green pepper	Loquats		Tomato sauce
	Oats		Groundnut sauce (thendo)		Usipa		Carrot	Grape fruits		Nali chilli
			M'ndawwa/		Utaka		Cassava leaves	Apricot		Jam
Recipes			Pigeon pea-meat stew		Bonya		Bean leaves	Fruit salad (with syrup)		
			Soya sausages		Matemba		Egg plants	Boiled mango		Biscuits
Breakfast			Boiled bambara nuts		Kampango		Cucumbers	Dried fruits		Crackers
			Chipere (Bean Dhal)		Bombe		Limanda	Mango salad		Achaar (oil, chilli, spices)
	Maize porridge with groundnuts flour (whole flour)		Cowpeas stew				Green maize	Cashew fruit		Honey
	Mtama/mtakula (pounded maize with groundnuts)		Pigeon pea stew				Pumpkin flowers	Pomegranate		Fruit squash
			Bambara stew				Pawpaw immature fruit			Carbonated drinks



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PHASE III

Data compilation

- Food groups: Ministry of Health Guidelines
- Addition: Miscellaneous group
- 8 Food Groups:
 - Staples
 - Legumes
 - Animal Foods
 - Vegetables
 - Fruits
 - Fats & Oils
 - Baby Foods

PHASE III

- Data Quality Assessment (DQA) Tool (AFSA, CSPO, USDA, BLS)
- Compilation activities:
 - Data evaluation, extraction, compilation
 - Standard guiding methodologies and principles
 - Adhering to quality assurance and
 - Data checking before publication guidelines
 - FAO/INFOODS
 - Data interrogation



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COMPILATION



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PHASE IV

Sustainability

- Stakeholder engagements to identify custodian
- Institutionalize the food composition activity
- Department of Nutrition and HIV/AIDS (DNHA)
- 2-day site visit to SAMRC showcase requirements
- Hosting a National Food Composition Database
- Resulted in a Stakeholder meeting of key role players
- To establish support for DNHA and the activity
- Existing platforms be utilized

PHASE IV

Sustainability

- **Overall management**
Is done by DNHA
- **Updates**
GoM & Research Institutions
Under technical leadership of LUANAR
- **Advisory capacity**
The Country's Policy Advisory Team - advisory body
- **Implementation and Operational Support**
Nutrition Research & Surveillance Technical Working Group
Operating under the National Nutrition Committee



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PUBLICATION

- **Dissemination event:**
 - 24 February 2020
 - 2-day workshop: Data quality
 - Publication: Open access
 - <https://dl.tufts.edu/concern/pdfs/d217r336https://nutritioninnovati onlab.org/publication/malawian-food-composition-table-2019>
 - AFROFOODS



Food Code	Ref. No	Food Item	Food Group	Moisture (g)	Energy Calculated (kCal)	Energy Calculated (kJ)	Nitrogen (g)	Total protein (g)	Total Fats (g)
MW03_0001	R20B	Beef mince, fried, (Nyama ya ng'ombe yoyaya yokazingira)	Animal	67.3	159	663	2.64	16.9	9.3
MW03_0002	R27	Beef stew, (Nyama ya ng'ombe yokazingira)	Animal	73.6	94	399	2.70	16.9	1.3
MW03_0003	VA	Beef, kidney, raw, (Impoyo ya ng'ombe)	Animal	77.9	99	416	2.78	17.4	3.1
MW03_0004	VA	Beef, liver, raw, (Chiwendi cha ng'ombe)	Animal	71.0	133	559	3.10	19.4	4.4
MW03_0005	R63	Beef, liver, stew, (chiwendi cha ng'ombe chokazingira)	Animal	78.7	113	474	1.38	8.6	5.9
MW03_0006	22	Beef, raw, (Nyama ya ng'ombe)	Animal	72.1	95	402	3.27	20.5	1.5
MW03_0007	VA	Beef, tripe, raw, (Nthumbwana za ng'ombe)	Animal	84.2	82	343	1.94	12.1	3.7
MW03_0008	23	Caterpillar, dry, roasted, (Ida lephichow (Njamaanya zozicha)	Animal	14.7	377	1588	10.16	63.5	11.3
MW03_0009	23	Caterpillar, roasted, (Imbrasia erli (Mphalabunga zozicha)	Animal	20.7	308	1300	7.12	44.5	7.6
MW03_0010	R41	Chicken stew, (Nkhuku yokazingira)	Animal	72.5	157	655	2.39	14.9	9.8
MW03_0011	26	Chicken, meat with skin, free range, local, raw, (Nkhuku ya chikuda)	Animal	73.1	129	541	3.38	21.1	4.9
MW03_0012	9	Crabs, boiled, (Mhansu/hhala zowitisa)	Animal	51.0	191	810	6.68	41.8	2.7
MW03_0013	R69	Egg, chicken, boiled, (Dzira la nkuku lovillisa)	Animal	72.2	164	684	2.24	14.0	11.4
MW03_0014	R61	Egg, chicken, scrambled, (Dzira la nkuku lokanya)	Animal	66.6	231	967	1.89	10.0	20.4
MW03_0015	M2F	Egg, chicken, whole, raw, (Dzira la nkuku)	Animal	75.0	148	616	2.02	12.6	10.3
MW03_0016	9	Egg, duck, boiled, (Dzira la bakha lwilisa/lozwitisa)	Animal	70.0	153	638	2.07	12.9	10.6
MW03_0017	R63	Eggs, chicken, boiled, with peas, (Mazira a nkuku ovillisa, ndi naawawa)	Animal	82.4	97	405	0.68	4.2	5.6
MW03_0018	R60	Eggs, chicken, boiled, with tomatoes, (Mazira a nkuku ovillisa othila tomato)	Animal	77.0	140	585	0.92	5.7	9.7

THE DATABASE AND TABLES

- **Comprise**
 - 316 Food items
 - 8 Food groups
 - 42 Components
 - 63% Malawian data
 - 30% South African, 4% West African
 - 2% USA, 1% Mozambique
 - 27% Baby Foods
 - 22% Staples
 - 2% Fats & Oils



3.4 SUMMARY STATISTICS OF THE COMPONENTS OF THE MFCDB

A summary of all the data reference sources and final statistics of the MFCT is shown in the infographic (Figure 1).

Figure 1: Summary statistics infographic of Malawian Food Composition Table 2019



13

MALAWIAN FOOD COMPOSITION TABLE 2019
CHAPTER 3

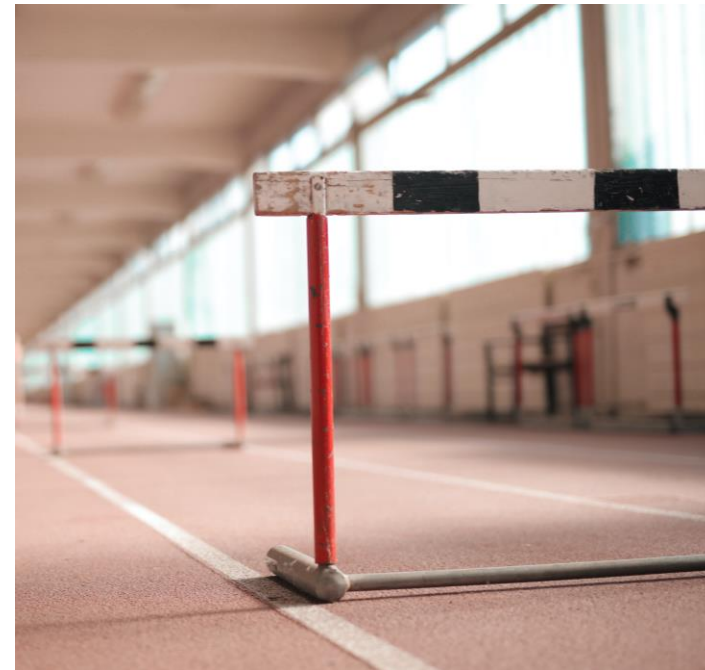


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CHALLENGES

- Resources
- Capacity
- Funding
- Fragmentation
- Private public partnerships
- Scientific literature
- Missing data
- Data quality



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HIGHLIGHTS

- From the onset, positive excitement
- Political will
- Dedicated team
- Multi-sectoral involvement
- Ample background information
- Established organized nutrition networks
- Established nutrition monitoring platforms
- Well equipped laboratories
- Plenty food composition activities
- Rich wealth of food composition literature
- Willingness to share information
- Phased approach
- Food composition activity continuing

Experience





CONCLUSION

- Bold strides have been made in establishing MAFOODS
- The multi-national collaborative project
- Harnessing existing networks and platforms
- Enabled multi-sectorial engagement and participation
- Publication of the Tables and Database
- Leading to sustainable food composition activities



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THANK YOU

References:

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2. Greenfield, H & Southgate, D.A.T. 2003. Food composition Data. Production, Management and Use. FAO, Rome
3. Bognar, A. 2002. Tables on Weight Yield of Food and Nutrient Retention Factors of Food Constituents for the Calculation of Nutrient Composition of Cooked Foods(Dishes). Bundesforschungsanstalt für Ernährung, Karlsruhe
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7. USDA. 2007. Tales of Nutrient Retention factors. Release 6. Nutrient Data Laboratory Beltsville Human Nutrition Research Center (BHNRC) Agricultural Research Service.

COMPILATION RESEARCH TEAM



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FUNDING SOURCES

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Use of the Malawi Food Composition Database (MAFOODS):

The adequacy of current consumption and the affordability of nutrient-adequate diets

October 21, 2020

Stevier Kaiyatsa

Economist at the Ministry of Economic Planning and Development in Malawi

Dr. William A. Masters

Investigator for the Innovation Lab for Nutrition and a Professor at Tufts University in the Friedman School of Nutrition with a secondary appointment in the Department of Economics

Kate Schneider

PhD Candidate in Food Policy and Applied nutrition at the Friedman School of Nutrition Science and Policy at Tufts University



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Using food composition data for policy analyses

Nutrient adequacy of actual household diets

- Use **household consumption survey data**, matching each item to its food composition
- Compute individuals' share of the household total, and compare to nutrient requirements

Affordability of adequate diets

- Use **national consumer price index (CPI) data**, matching each item to its food composition
- Compute the least-cost diets that meet all nutrient requirements, and compare over time and place

Can rural markets fill nutrient gaps in household diets?



Thyolo market



Mitundu market

Malawian foods differ in composition from similar items elsewhere

Compared to USDA standard reference levels, some Malawian foods have some nutrients at higher levels (in blue), others are lower (in red)

Not all nutrients in all foods could be ascertained, so some values are missing

Ratio of Malawi food composition data to USDA SR28 (per 100 g of edible portion)

	Moisture	Energy	Protein	Fats	Calcium	Iron	Zinc	Copper	Selenium	Riboflavin	Niacin	Vit. B6	Vit. A (RAE)
Egg (boiled)	0.97	1.06	1.11	1.08	0.86	1.68	1.22	0.00	0.00	0.82	1.66	0.35	0.50
Milk (fresh)	1.00	1.10	0.92	1.27	1.06	3.33	1.03			0.95	1.12	1.11	0.96
Banana	0.96	1.22	1.17	0.64	1.80	1.23	1.33	1.09		0.58	0.96	0.98	1.33
Okra	0.93	1.97	1.34	3.10	1.28	1.58	1.57	1.50		2.08	1.10	1.60	2.16
Cowpeas (boiled)	0.89	1.34	2.51	1.34	0.18	2.07	0.97	1.50		0.27	0.50	1.40	0.00
Maize grain (yellow)	1.30	1.00	1.01	1.11	1.43	1.11	1.04	0.64		0.60	0.61	0.48	0.09
Maize grain (white)	1.05	1.01	0.98	0.87	0.57	0.66	0.86	0.67	0.19	0.50	0.58	0.32	
Maize grain (white, Se fert. applied)	1.37	0.98	1.27	1.02	0.14	0.92	1.04	1.30	0.73	1.20	1.06	0.52	

Source: Authors' calculations from MAFOODS (2019), Malawian Food Composition Table, 1st edition. Averalda van Graan, Joelaine Chetty, Malory Jumat, Sitilitha Masangwi, Agnes Mwangwela, Felix Pensulo Phiri, Lynne M. Ausman, Shibani Ghosh, Elizabeth Marino-Costello (eds). Lilongwe, Malawi. Denominator is the composition of each item as reported in USDA Nutrient Data Laboratory (2016), USDA National Nutrient Database for Standard Reference, Release 28 (Slightly revised, May 2016).

Data sources to which we match food composition data

For household diet quality:

- Integrated household panel survey (IHPS 2010, 2013, 2016/17)

For affordability of nutrient-adequate diets:

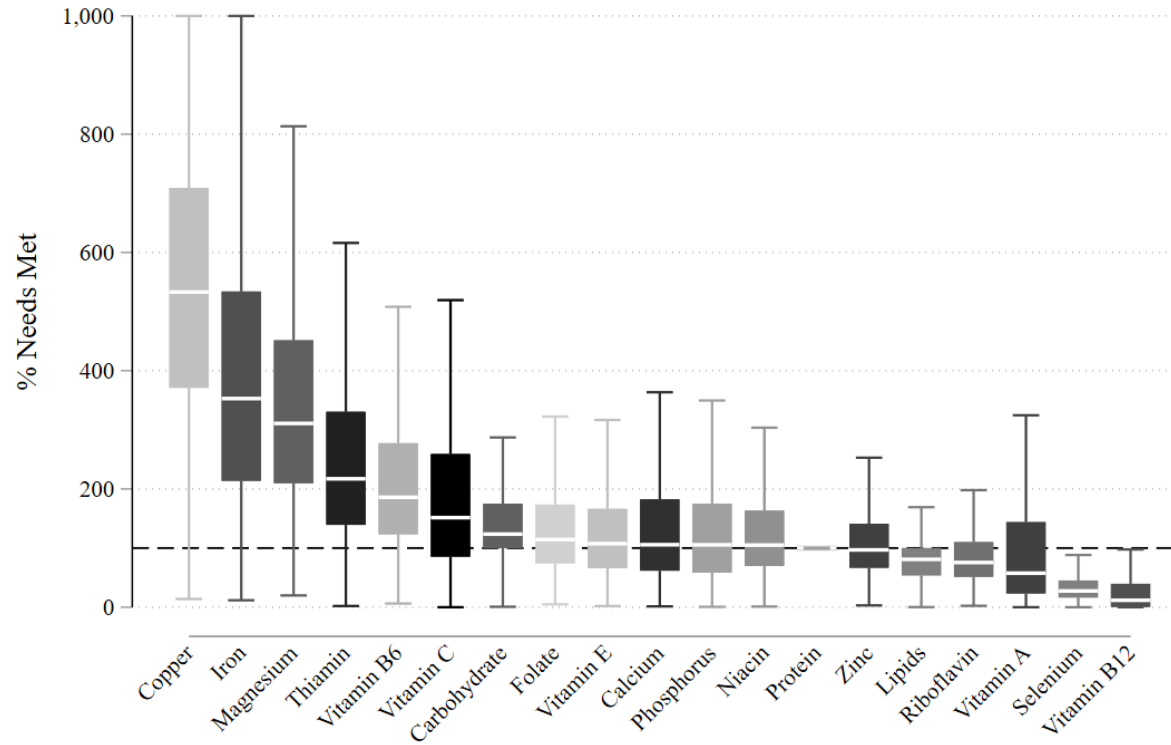
- Retail market food prices, monthly (Food CPI 2013-2017)

For both actual diets and affordability:

- Nutrient requirements from Dietary Reference Intakes (DRIs)
- Reference heights and weights at each age, by sex (WHO 2006, 2007)



Nutrient intakes are insufficient to meet needs



- **Nutrients of concern:**

- Riboflavin
- Selenium
- Lipids
- Vitamin B12
- Zinc

- Reflects few animal-source foods and soil health

Source: K. Schneider (2020), forthcoming.



Population statistics.

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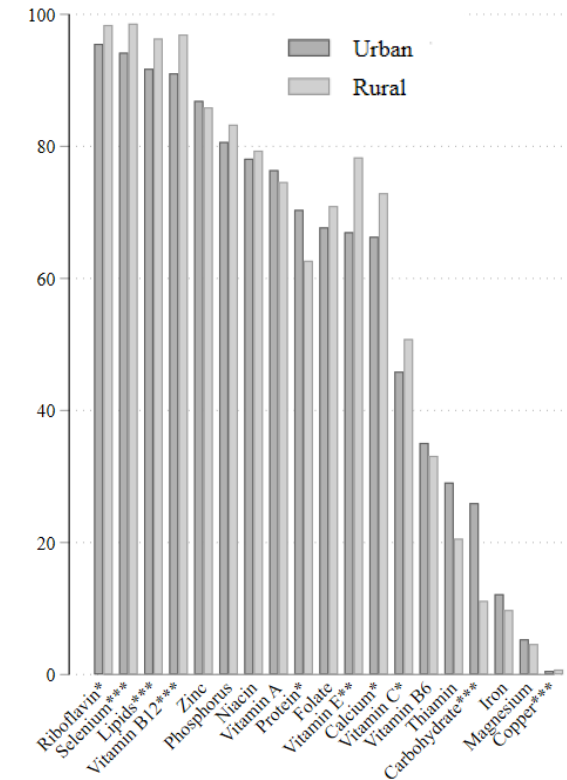
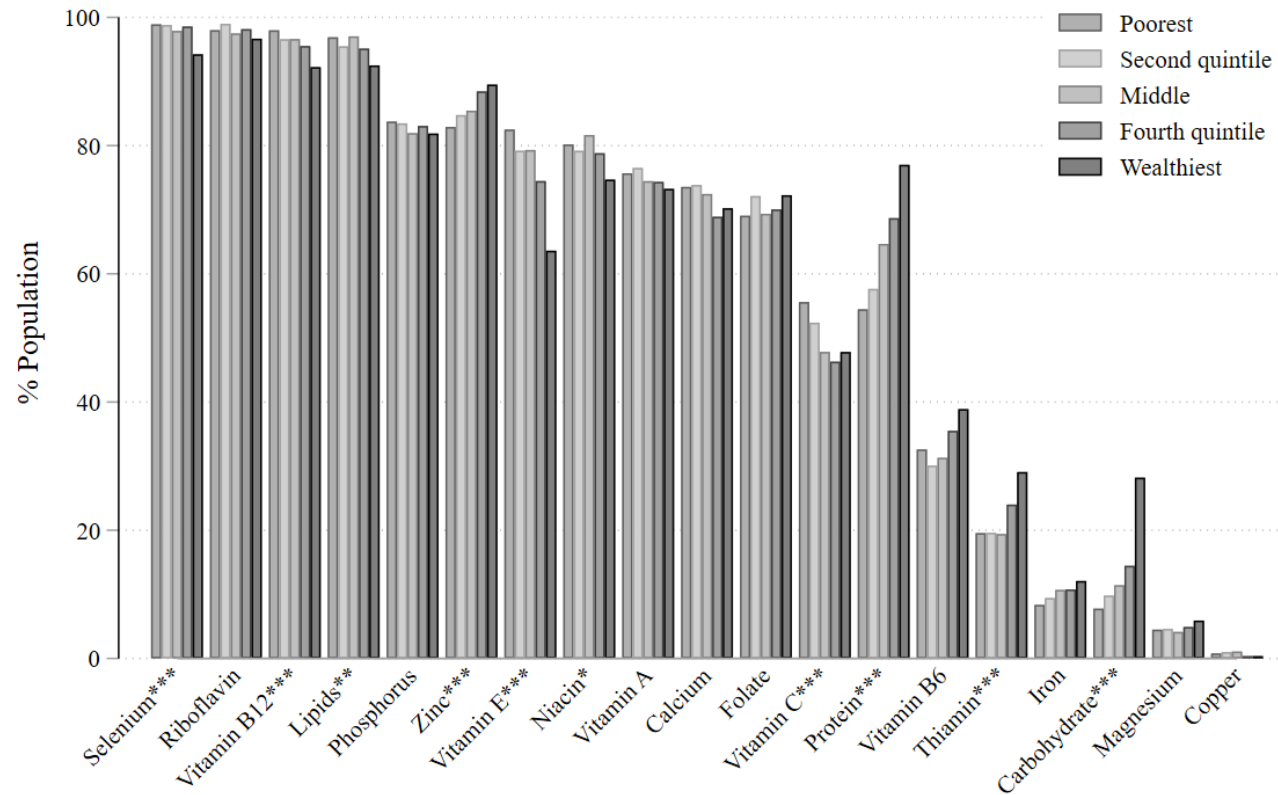


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Too few nutrient-dense foods in the food system

% Population with Inadequate Nutrient Density in the Diet



Population statistics; significant difference by urban/rural or by wealth quintile: *p<0.05 **p<0.01 ***p<0.001

Source: K. Schneider (2020), forthcoming.



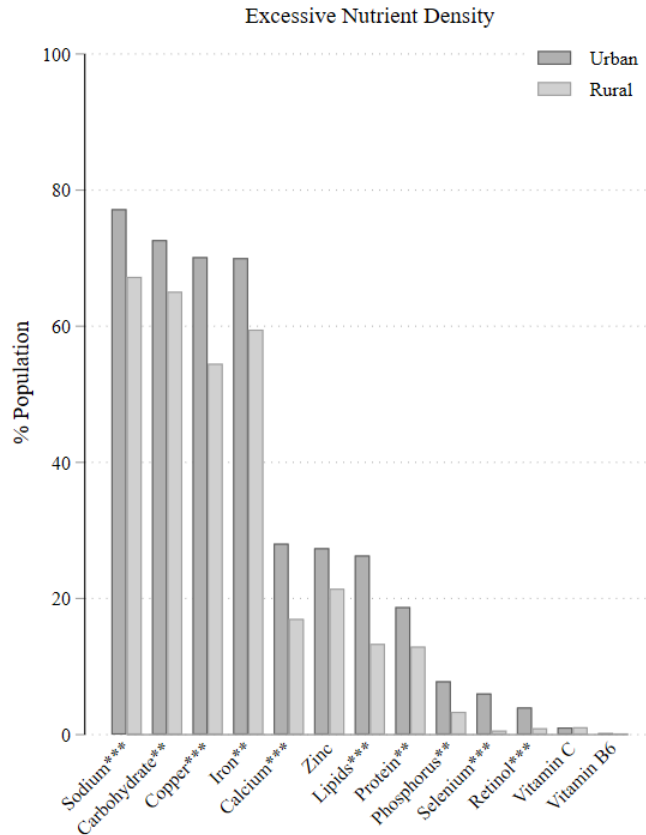
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Some nutrients are too prevalent



- **Nutrients of concern :**
 - Carbohydrates
 - Copper
 - Iron
- Reflects imbalanced diets *and* soil composition
- Provides context to Micronutrient Survey (2016) finding:
 - Low prevalence of iron deficiency
 - High prevalence of non-iron deficiency anemia
 - Very high prevalence of zinc deficiency

Population statistics; significant difference by urban/rural: *p<0.05 **p<0.01 ***p<0.001



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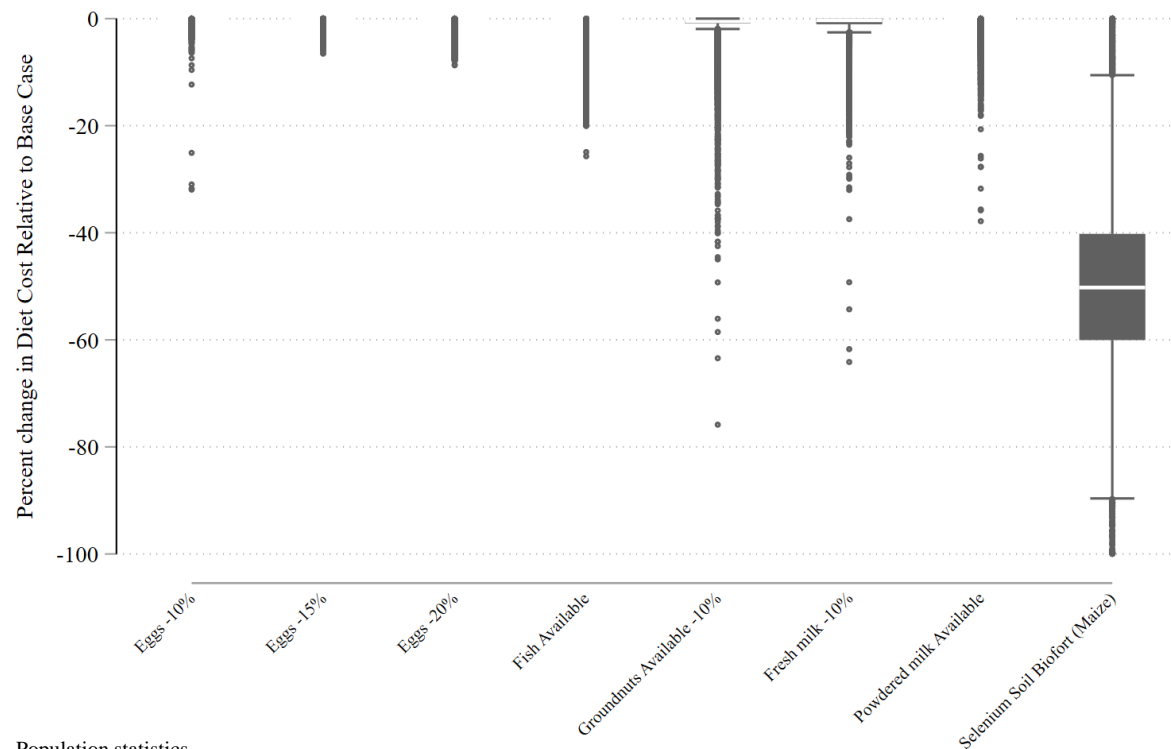
Source: K. Schneider (2020), forthcoming.



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Soil biofortification offers a promising solution



Population statistics.

For whole families who eat shared meals:

- **Biofortifying maize is the only identified policy option**
 - Cuts cost per person by half
 - Near universal feasibility of an adequate diet

Source: K. Schneider (2020), forthcoming.



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Least-cost diets to meet all nutrient requirements would complement maize with other foods

In Tanzania and Ethiopia, dairy and leguminous grains are lower cost than in Malawi, so are included in larger quantities, displacing more of their local starchy staples

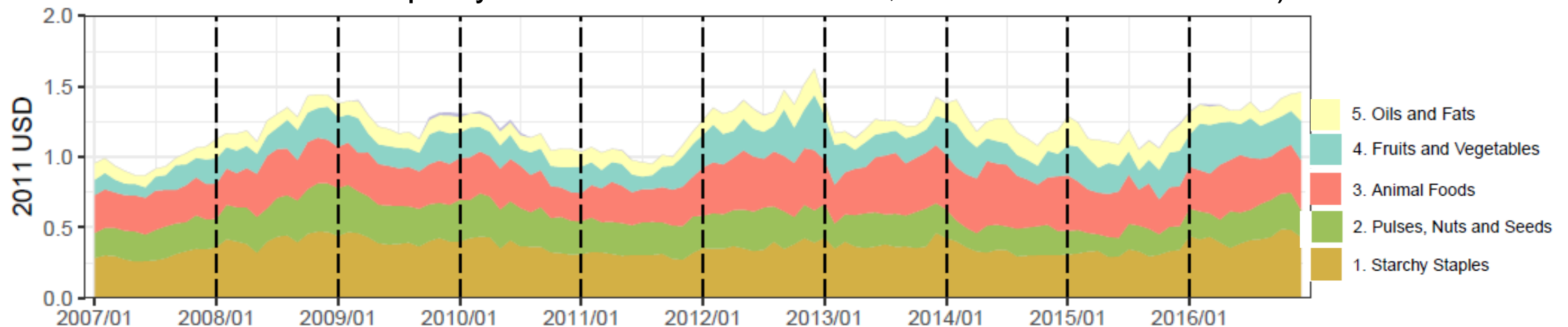
Source: Y. Bai, E.N. Naumova and W.A. Masters (2020), Seasonality of diet costs reveals food system performance in East Africa. Working paper, forthcoming.





Starchy staples account for about 25% of daily costs for diets that would meet all nutrient requirements, but fluctuate seasonally and from year to year

Cost of nutrient adequacy at 29 markets in Malawi, Jan. 2007 – Dec. 2016)

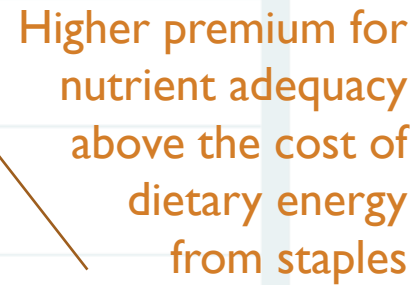


Source: Y. Bai, E.N. Naumova and W.A. Masters (2020),
Seasonality of diet costs reveals food system
performance in East Africa. Working paper, forthcoming.



Within Malawi, markets vary widely in the price and availability of least-cost foods to meet nutrient needs

Map of Malawi showing district boundaries and market locations. The map is oriented vertically. Districts labeled include Chitipa, Karonga, Zomba, Rumphi, Fiwelahi, Nkhatabayi, Mzimba, Kasungu, Nkhosato, Mchinji, Ntcheu, Salima, Ntchanga, Lilongwe, Mzimba, Dedza, Mangochi, Ntcheu, Ntchanga, Balaka, Mwanza, Mzimba, Thyolo, Ntchanga, Chitale, and Nsanje. Market locations are marked with triangles (main district market) and circles (remote market).



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Conclusions

Better nutrient composition data allows us to

- Measure adequacy of current diets
- Measure the cost of reaching adequacy with currently-available foods
- Identify differences between current diets and least-cost items for nutrient adequacy
- Identify cost-effective policies and programs to bring nutrients within reach
- Guide statistical agencies on data collection and reporting about the food system

Some specific findings from diet cost analyses so far

- Micronutrient deficiencies in soils and crops can play a big role in dietary adequacy
- Market availability of sufficiently diverse foods, year-round and nationwide, is not yet assured
- Animal-source foods especially eggs and dairy, are typically available but not affordable at low incomes



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Q&A



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THANK YOU

- Upcoming webinar – **Assessing predictors and metrics of diet quality in Sub-Saharan Africa and South Asia: The intersection of agriculture, nutrition, and health**, November 4th, at 9:00 am (ET)
- To register for any of these events, you can visit **NutritionInnovationLab.org** or **AdvancingNutrition.org**.
- Recordings and slides for each webinar will also be posted on our websites.



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