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# (In)formality in the Food Environment: A Review of Nutrition, livelihood, and Socio-political Outcomes and Implications for Food Policy

Ramya Ambikapathi, MHS, PhD  
Alliance of Bioversity and CIAT, Colombia

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# Team

## **Cornell (USA):**

Elizabeth Fox  
Erick Muirungi  
Jacob Blizard  
Matthew Kibbe  
Rachel Bezner Kerr  
Mario Herrero  
Daniel Mason-D'Croz

## **Purdue (USA):**

Nilupa Gunaratna

## **Kula Vyema Centre of Food Economics (Kenya):**

Simon Kimenju

## **IFPRI (USA):**

Swetha Manohar

## **Alliance (Colombia):**

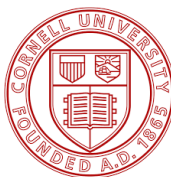
Jenny Wiegel  
Mark Lundy

## **University of Cape Town (South Africa):**

Jane Battersby

## **Global Alliance for Improved Nutrition (Switzerland)**

Stella Nordahagen



Funders: LSHTM

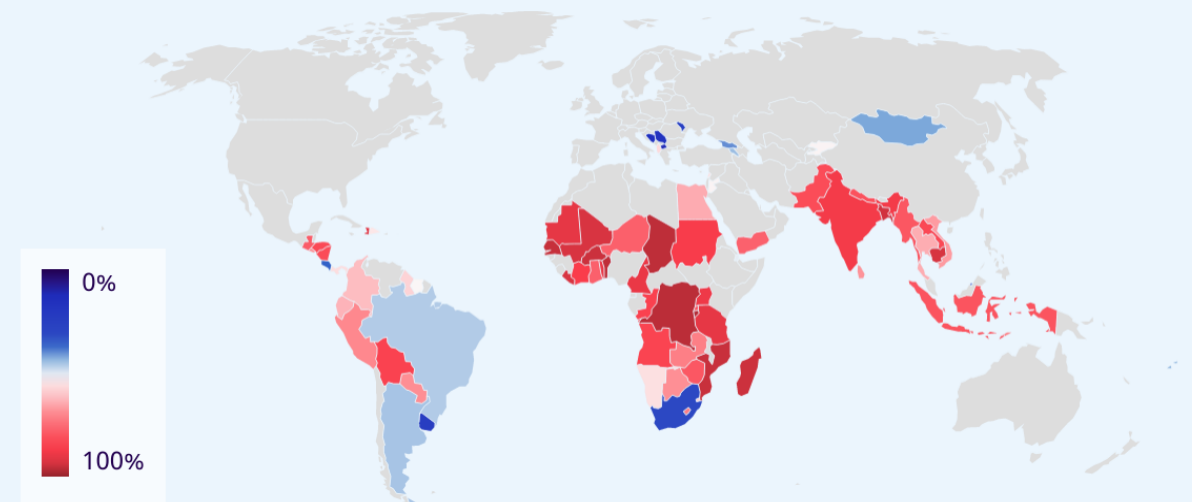


# Why (in)formality and why food environment? And why informality in the food environment?

- **80-90% of employment in developing countries is informal;**
- **Gendered.**
- **(In)formal vendors** : mitigating food insecurity while providing convenient access to both processed and nutritious foods for low-income communities
- **We lack systematic evidence** on how informal food environments impact nutrition, livelihoods, and socio-political dimensions – creating a massive gap in policy visibility.

## ► High shares of informality in developing countries

Share of informal employment by country (in percent), latest year



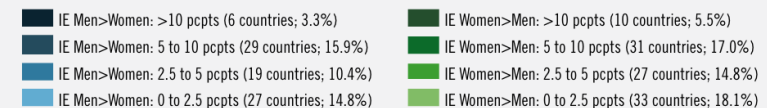
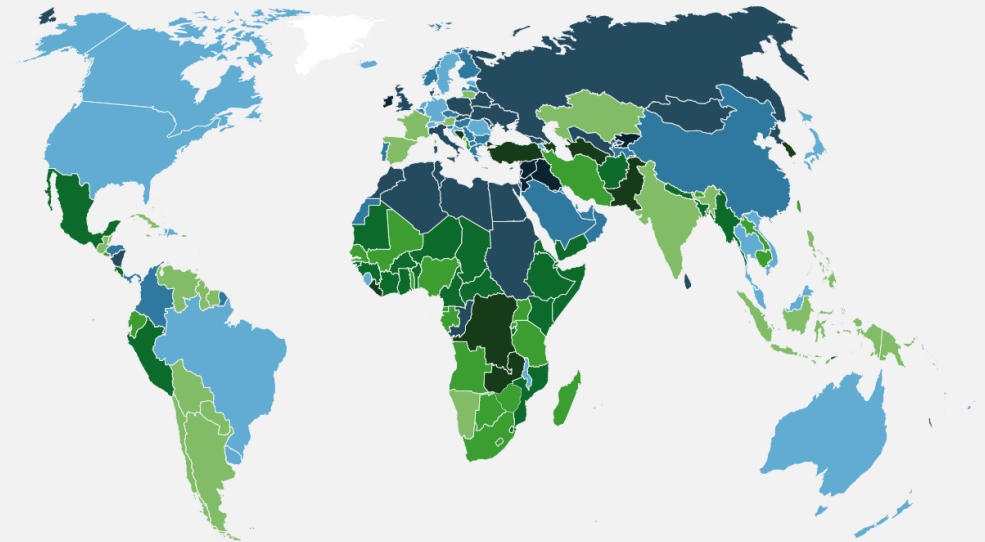
*The boundaries shown on this map do not imply endorsement or acceptance by the ILO.  
Last updated on 19 July 2021.*

Source: [ILOSTAT](#)

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Figure 11. Gender gap in the share of informal employment in total employment including agriculture (percentage points, latest available year)



Source: ILOSTAT

# Aims of the review

1) How is informality in the food environment defined and studied in the empirical literature?

2) **(Nutrition Dimension)** What factors of the (in)formal food environment have been studied regarding food choice and dietary outcomes?

3) **(Socio-Political Dimension)** What factors in the social-political environment have labor been studied in the (in)formal food environment (bribes, gender, safety, regulation, local governance, access to capital, sanitation)?

4) **(Livelihood dimension)** What livelihood factors have been studied (e.g. seasonal, multiple jobs, wages /profits, unpaid, availability of capital, access to water, sanitation, procurement, sourcing)

OSF registration: <https://doi.org/10.17605/OSF.IO/YMK3T>

Search no.	Search string	Concept
1.	TS=(((food* OR beverage* OR juice* OR water OR soda*) AND ((street OR mobile OR informal OR grey OR unregulated OR unlicen?ed OR "un regulated" OR "un licen?ed") NEAR/2 (vend* OR market* OR seller* OR trade* OR stall OR stalls OR cart OR carts))) OR (informal NEAR/1 (trade* OR market* OR vend* OR (food* OR beverage* OR juice* OR water OR soda*))) OR "street food*" OR "street vend*" OR "street market*" OR "street trad*" OR "public eating" OR "wet market*" OR (((food OR beverage* OR juice* OR water OR soda*) NEAR/2 market*) AND (street OR informal OR unlicen?ed OR unregulated)) OR ((food OR beverage* OR juice* OR water OR soda*) NEAR/2 (vendor* OR street OR informal OR unlicen?ed OR unregulated)) OR (((food* OR beverage* OR juice* OR water OR soda*) NEAR/2 seller*) AND (street OR informal OR unlicen?ed OR unregulated)) OR (((food OR beverage* OR juice* OR water OR soda*) NEAR/2 retail*) AND (street OR informal OR unlicen?ed OR unregulated)) OR (((food OR beverage* OR juice* OR water OR soda*) NEAR/2 stall*) AND (street OR informal OR unlicen?ed OR unregulated)) OR ((microenterprise* OR "micro enterprise*" OR trade* OR firm* OR microfirm* OR "micro firm*") NEAR/3 (food OR beverage* OR juice* OR water OR soda*)) OR (((food* OR beverage* OR juice* OR water OR soda*) OR meal* OR eat* OR consum*) NEAR/3 ((out* OR away) NEAR/2 home*)) )	Informal food/beverage s employment

**Searched 10 databases:** WoS core collections, Biosis, Scopus, Medline, Agricola, GenderWatch, Sociology source, Proquest, CAB global abstracts, Food science and technology.

**Inclusion criteria:** English, year >2000, LMIC, '(in)formality in the food environment', include outcomes related to nutrition, socio-political or livelihood, and empirical data (journal, grey reports, thesis).

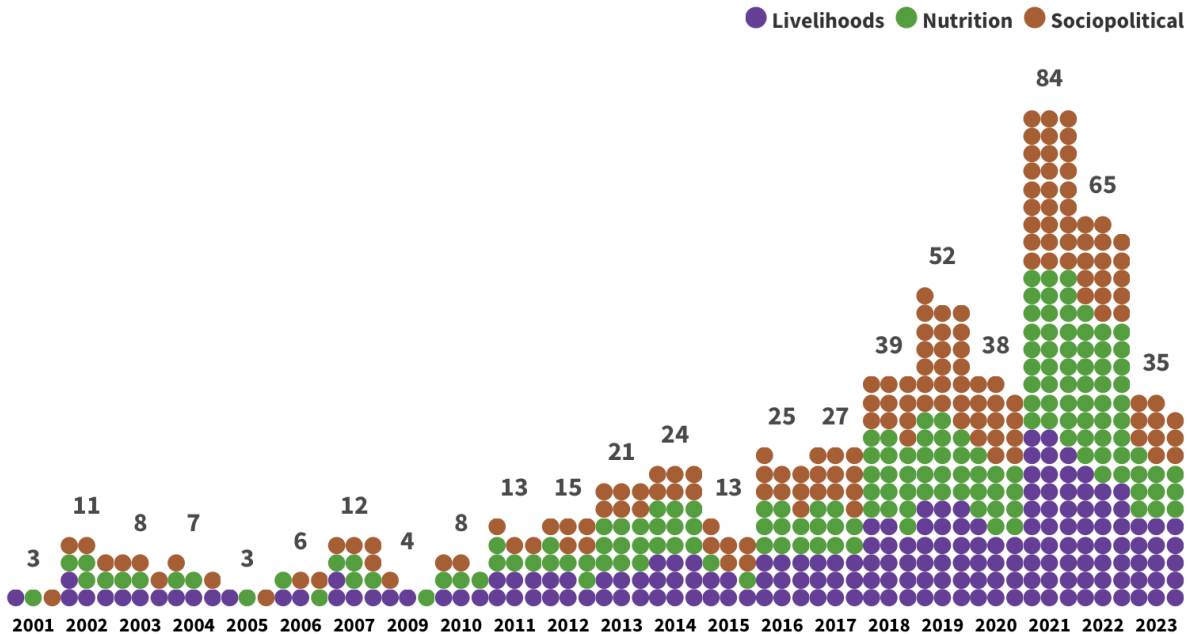


# Data extraction from the included studies

- **Demographic factor** (author, affiliation, doi, year, aims of the study, first sentence of introduction)
- **Methods** (type of study, sampling frame, sampling size, tools used, geographic context, urbanity, cross-sectional)
- **(In)formal:** Defined, compared with ILOstat definition, and text extraction
- **Nutrition dimension:** food environment factors, food studied, types of papers, and text extraction
- Mention -Climate change, COVID-19, digital services?
- **Socio-political dimension:** bribes, safety, regulation, local governance, access to capital, sanitation, others, and text extraction
- **Livelihood dimension:** multiple jobs, wages / profits, unpaid, availability of capital, access to water, sanitation, procurement, sourcing, others and text extraction
- Gaps and policy recommendations
- Mixed methods appraisal tool (MMAT) of papers.

# Overview of included studies and outcomes

Around 75% of papers are from capital cities, very few secondary cities, and even fewer from rural food environments.



Type of evidence



Methodology



Data collection tool



Sampling frame

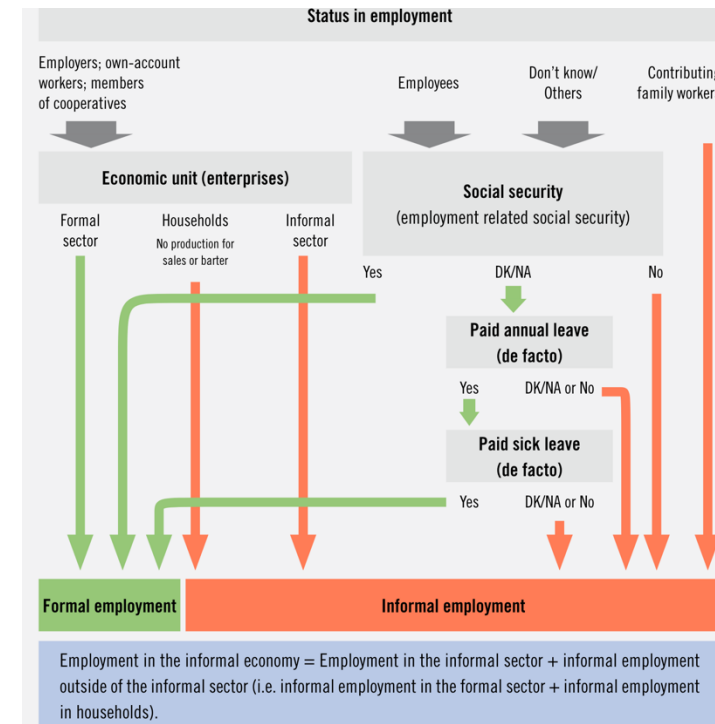


0% 25% 50% 75% 100%

# 1) How is (In)formality conceptualized?

ILO definitions has three main features:

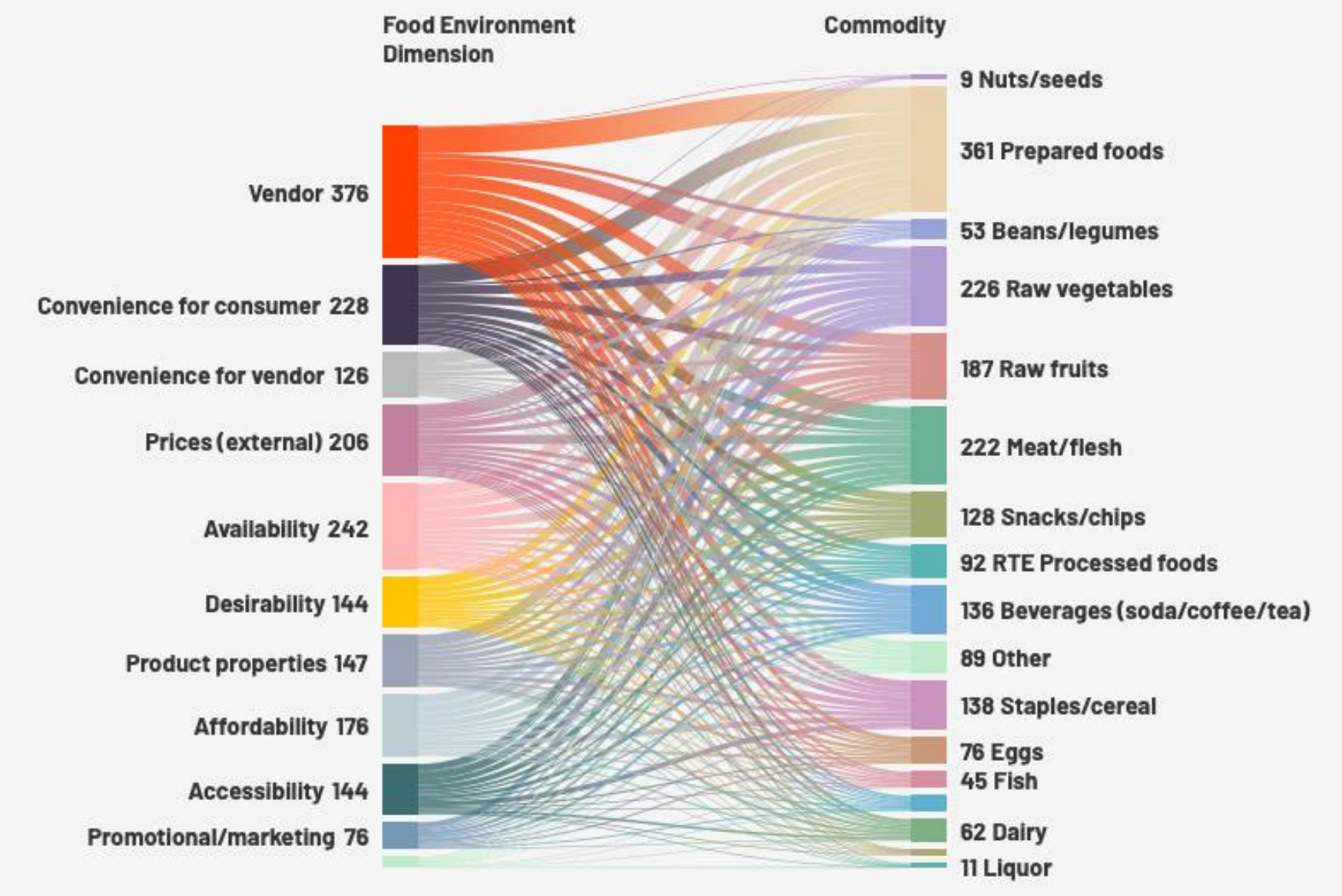
- 1) Vendors mentioned goods or services produced for the markets (83% of paper mentions this)
- 2) Private enterprises (23% of included papers)
- 3) Lack of social protection, such as health care/ annual leave (10% of papers mention this)



# 1) How is (In)formality conceptualized?

Informal food environment definition categories	Definitions	Illustrative quotes
<b>ILO definition (Hart)</b>	Sells goods and services to market, not registered or licensed, does not have social protection. Typically, considered low productivity	"Informal economy seems to both deceptively simple and extraordinarily complex and defines the economic actions that is out of boundaries of formal economy that bypass the costs of, and are excluded from the protection of, laws and rules" (Toker et al, 2020; Turkey)
<b>Permanent semi-permanent structure (Tinkers)</b>	Informal food vendors that don't have physical structured space to sell food.	"Street trading is a growing urban phenomenon in Dhaka city, visible at different places in stationary or moving form. Hence, they are defined as traders who sell goods to the public without a permanent premise to conduct business. Those self-employed workers in the informal sector recognized as street traders who do not have a fixed, permanent concrete arrangement to sell their goods and services". (Husain 2015; Bangladesh).
<b>By product and/ or legality</b>	Informal food vendors that sell specific foods, for example, ready to eat foods and do not have a legal space.	"In this paper, the term "street vendors" refers to food sellers who do not have a fixed legal space in the local wet markets, and who can either be mobile within certain neighborhoods (using a bicycle or a motorbike) or sell from pavements along the streets. In this paper, the term "street vendors" refers to food sellers who do not have a fixed legal space in the local wet markets, and who can either be mobile within certain neighbourhoods (using a bicycle or a motorbike) or sell from pavements along the streets. Street food vendors sell a variety of agricultural produce including vegetables, fruits, pork, live fish and seafood, live poultry, fresh rice noodles, tofu, boiled or roasted maize, ground nuts and dried fish. (Kawarazuka 2017; Vietnam)
<b>By location and visibility / FAO 2009 Report</b>	Informal food vendors selling foods at roadsides, streets, or informal settlements	"At the other extreme were smaller informally regulated markets where vendors either operated out of small shacks or at the roadside, usually in informal settlements" (Riley 2013; Botswana and Malawi)
<b>Data-context driven approach</b>	These definitions are data and context driven, sometimes adds to the ILO definition.	"In order to determine the different levels of informalization of the female food vendors, four variables were used to generate a dichotomous variable of informality by relying on (i) legal (registration) status, (2) tax (registration) status, (3) account ownership and (4) the type of physical structure of the enterprise. It is important to note that most studies rely only on the first three variables (see Adom and Williams, 2014) but given the uniqueness of the food service industry, the fourth variable is included. "(Ashlay-Nikos, 2023; Ghana)

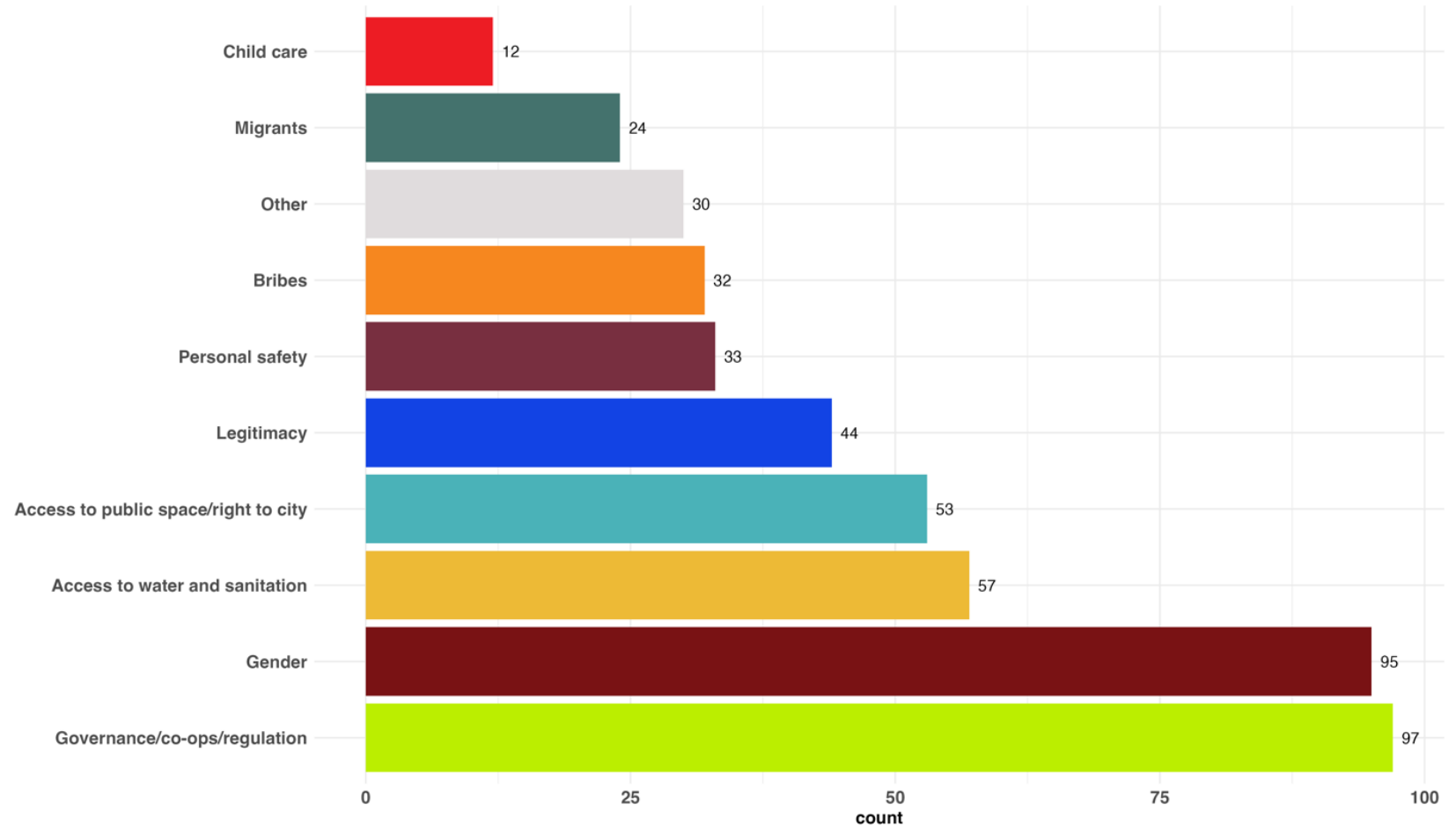
# 2) What factors of the (in)formal food environment have been studied regarding food choice and dietary outcomes?



# What are the most studied sociopolitical outcomes?

“Moreover, women vendors fear expropriation by the municipality police and sometimes by Covid lockdown patrols....They hold their items and run away, but this also has disadvantages, especially those who sell delicate items such as eggs have to stay and easily surrender to the police because should they try to run away, their commodities will break.”

(Eriteria, Lalu Naik 2023)



# What are the most studied livelihood outcomes?

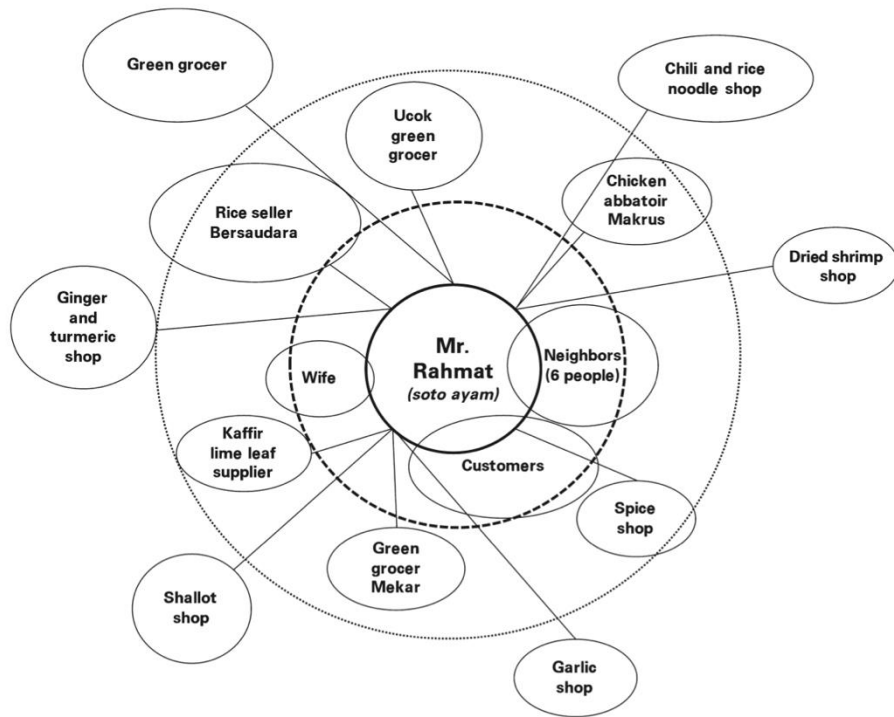
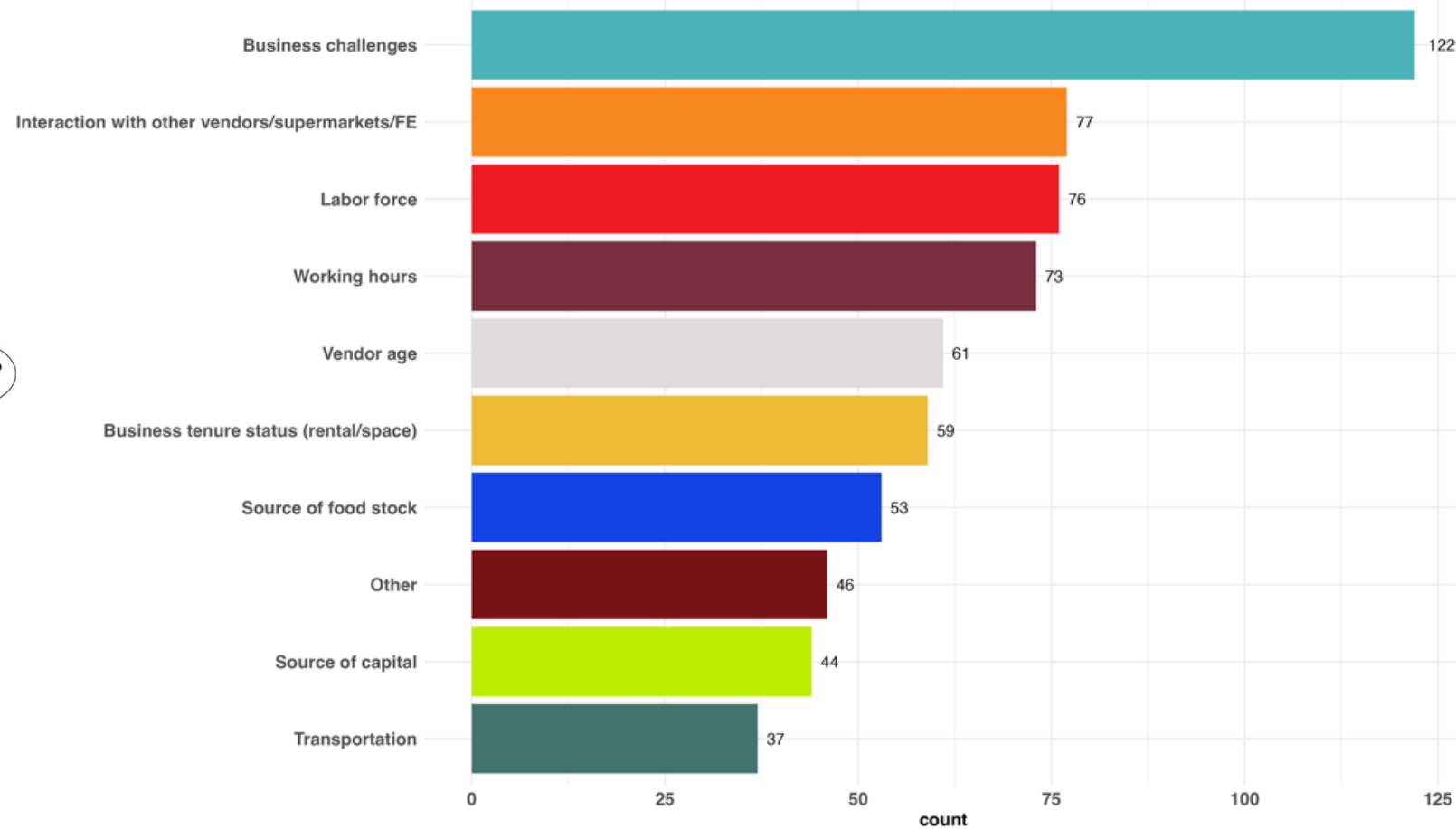


Fig. 2 Mr. Rahmat's Network

Source: Author

(Indonesia, Malasan, 2015)



# Implications

- **Definitions and methods shape how we study** and frame food policy on informality.
- **A multidimensional characterization is needed – one that explicitly examines** the linkages between livelihoods and nutrition within sociopolitical contexts.
  - Multiplier effects for both local labor, commodities, and services
- **Leverage convenience advantages** – vendors' flexible sourcing and spatial accessibility can improve access to healthy foods.
- **(In)formal = inclusive?**
- **Major evidence gaps exist** in rural informal food environments, secondary cities, and the availability of social protection for food vendors.
- **Methods:** a user interface to include tables/plots for data extraction.

**Informal vendors play a central role in** food system transformation policies in LMIC.

Without a systematic understanding of actors in the informal food environments, policies will continue to miss the majority of food system actors serving the world's most vulnerable populations.



# Thanks!

Questions/Comments: [r.ambikapathi@cgiar.org](mailto:r.ambikapathi@cgiar.org)

# Methods of included studies

