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Cooking as part of a global sustainable food system - a 6 country pilot survey

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The cooking of food is a nexus point for multiple issues. Cooking is intertwined with dietary choices, affects the nutrient content and environmental impacts of food, and is linked to time use and gender roles in the home. Due to its intersectionality, changing cooking practices can potentially impact upon multiple Sustainable Development Goals. However, cookery is seldom considered in the wider perspective of a sustainable food system - with only ethnographic studies examining how cooking is performed being the norm. Overall there is a limited evidence base at the population level of how different nations/populations currently cook, and how changing this would result in changes to the environment, consumer health, and economy.

The current research aims to create a wider evidence base to demonstrate and quantify why cooking and food practices are important, and how they differ by geography. In this research we piloted a ~40 minute survey using the Qualtrics online survey panel in 6 countries (Nigeria, Ghana, India, Kenya, Brazil, and the UK). Participants were asked a series of questions about their: dietary preferences (e.g. vegetarian, omnivore, etc.), cooking habits (e.g frequency of cooking at home), food preparation (e.g. time taken), cooking methods used (e.g. boil, fry, roast), and perceptions of food waste, food safety, calorie and carbon footprints, as well as food security and demographic questions. 10-15 culturally appropriate/popular foods were accessed through a food frequency questionnaire, containing images of food portion size estimates, from food manuals developed by a research group from the Federal University of Paraná (http://gupea.ufpr.br/?page_id=19; Additional images of bread were sourced from the Food4Me project (DOI: 10.2196/jmir.3105). Figure 1 presents this list of foods.

Recruitment used Qualtrics global recruitment services as well the Prolific panel (for the UK). Participants were potentially given financial compensation for taking part by Qualtrics, but this was outside the control of the research team. The surveys were deployed from the 25th of March, 2020. There were slight recruitment issues for some countries due to parts of the survey being carried out in Ramadan and during the COVID-19 lockdown, and so the recruitment window had to be extended until the 1st of June 2020. Participant rates, gender splits (Figure 2) and dietary patterns (figure 3) varied by country. Figure 4 to 10 compare Chicken food habits and perceptions across the 6 countries.

Figure 1 Selected foods for each country, grouped by similarity

Nigeria	India	Ghana	Brazil	UK	Kenya	Photo
Beef	Beef or Lamb	Beef	Beef	Beef	Beef	
Chicken	Chicken	Chicken	Chicken	Chicken	Chicken	
Bitter green leaves	Green Leaves	Nkontomire (green leaves)	Collard greens, cooked	Leafy greens, cooked	Spinach or sukuma wiki (kale) (green leaves)	
Beans	Brown beans	Beans	Brown or black beans (with liquids)	Beans in sauce	Beans	
Rice	Rice	Rice	White rice	White rice	Rice	
Green beans	Green beans	Green beans	Green beans	Green beans	Green beans	
Carrot	Carrot	Carrot	Carrot	Carrot	Carrot	
Tomato	Tomato	Tomato	Tomato	Tomato	Tomato	
	Lentils (brown)		Lentils (brown)	Lentils (brown)		
Noodles		Noodles	Spaghetti	Spaghetti		
Bread		Bread	Bread (roll)	Bread (roll)	Bread	
		fermented /unfermented grain (e.g. maize,millet)	Polenta	Polenta	Ugali (maize meal)	
	Chapatti/ Roti			Sliced bread	Chapatti	
	Potato		Potato	Potato		
Gari (cassava)			Cassava			
Yam		Yam	Sweet potato	Sweet potato	Sweet potato	

Figure 2 Sample sizes and gender percentage, per country

Nigeria n=318 (46% female)
India n=609 (30% female)
Ghana n=316 (18% female)
Brazil n=561 (43% female)
United Kingdom n=452 (62% female)
Kenya n=298 (32% female)

Figure 3 Self-reported dietary pattern

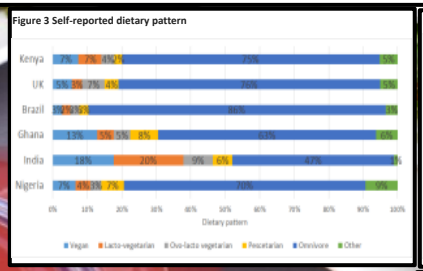


Figure 4 Typical purchase method - Chicken

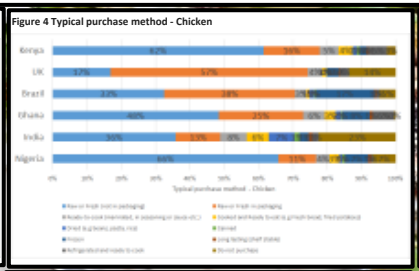


Figure 5 Typical portion size - Chicken

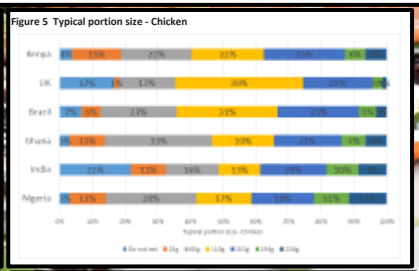


Figure 6 Typical consumption frequency - Chicken

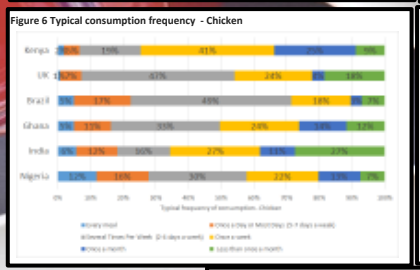


Figure 7 Typical number of portions cooked - Chicken

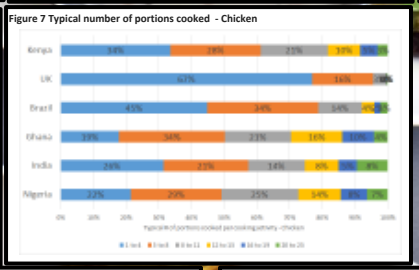


Figure 8 Typical cooking method - Chicken

Figure 9 % of purchased food thrown away - Chicken

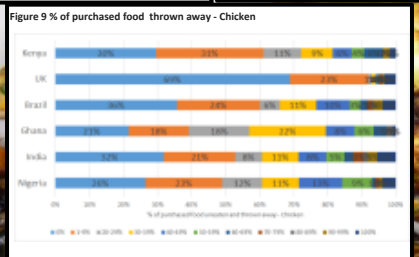
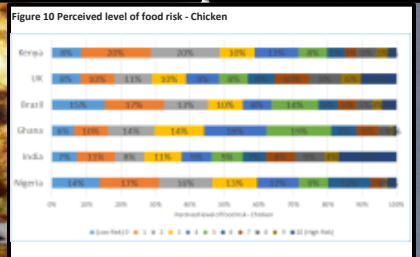


Figure 10 Perceived level of food risk - Chicken



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Presented at the Cooking and Nutrition Education Symposium on the 12 th of June 2020, The University of Newcastle, Australia

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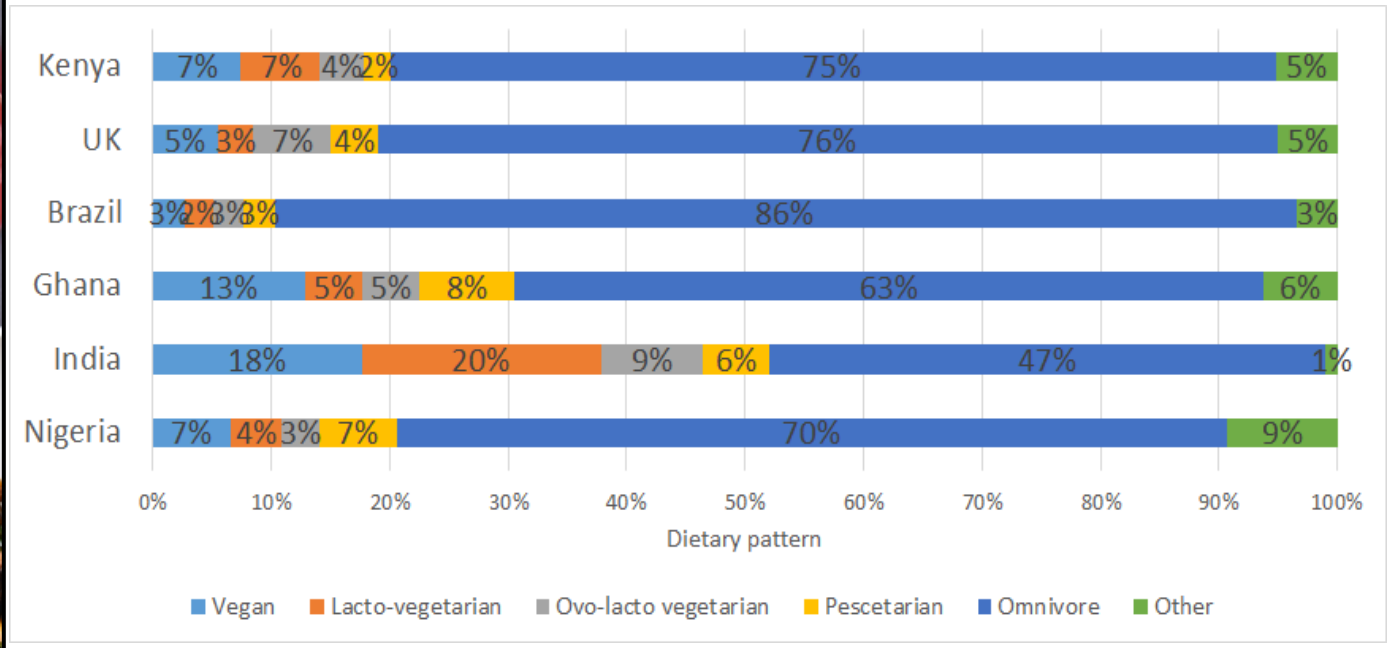

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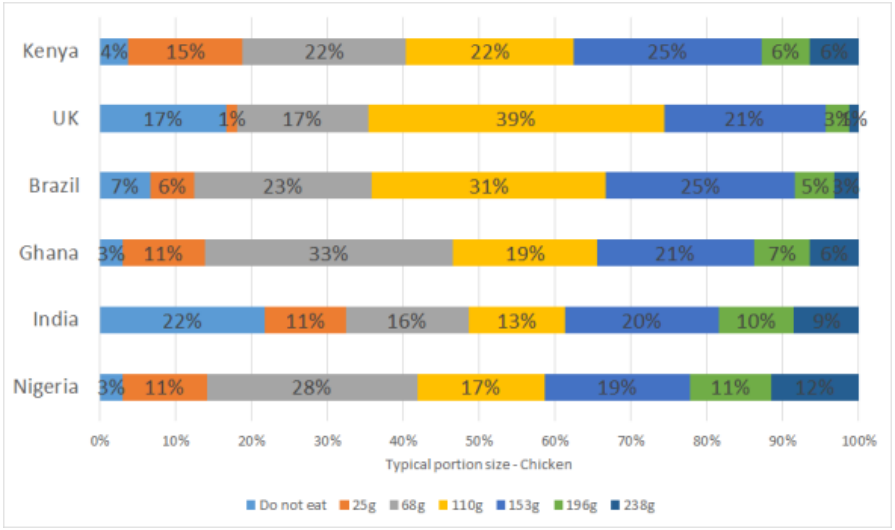

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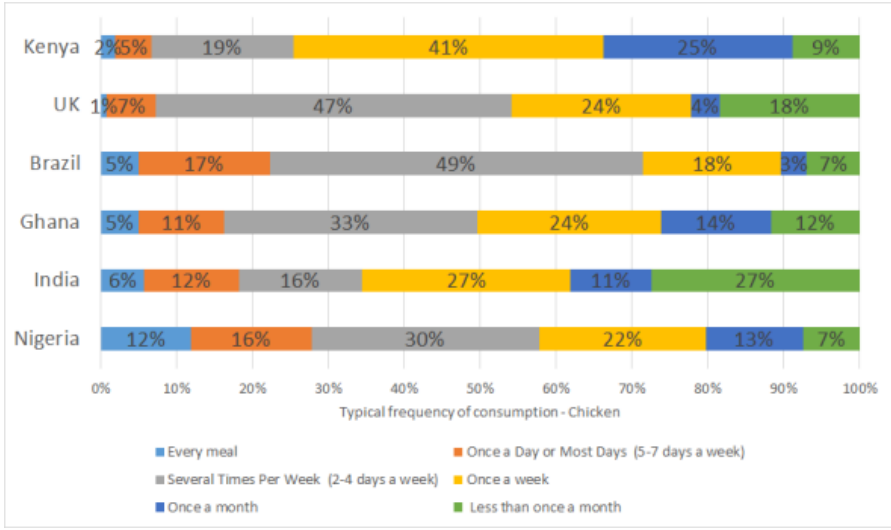

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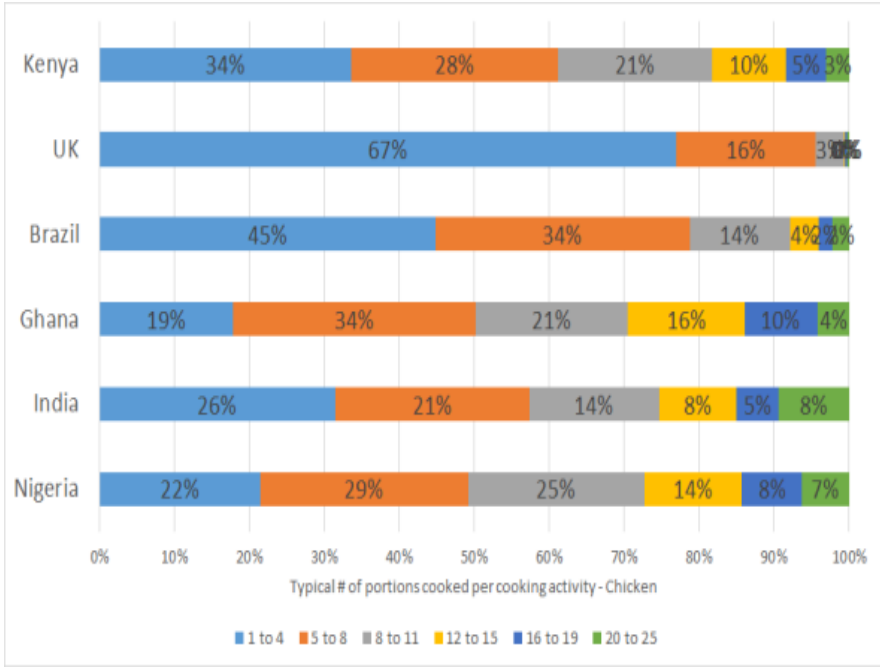

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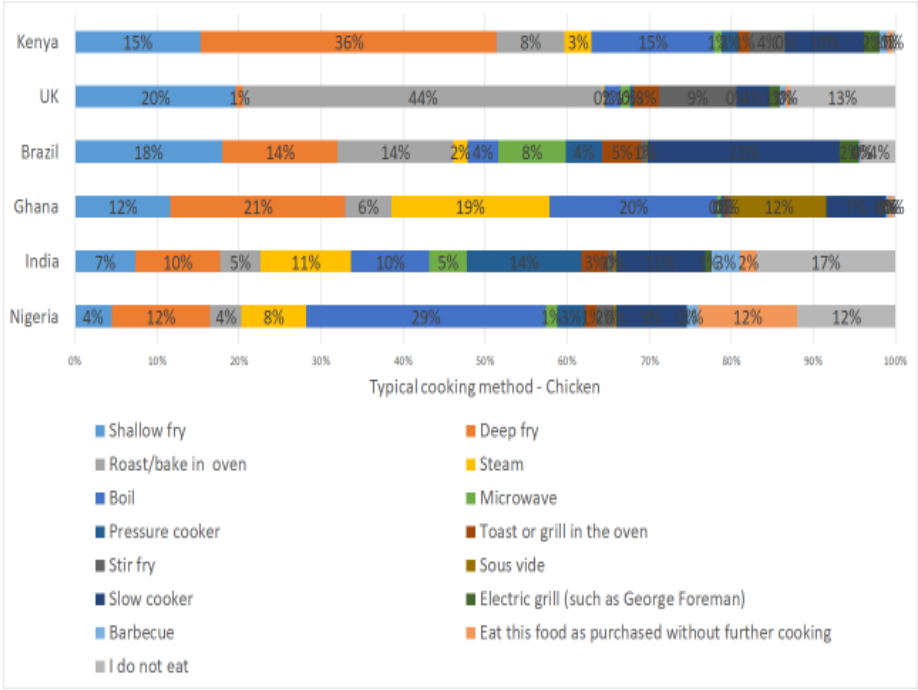

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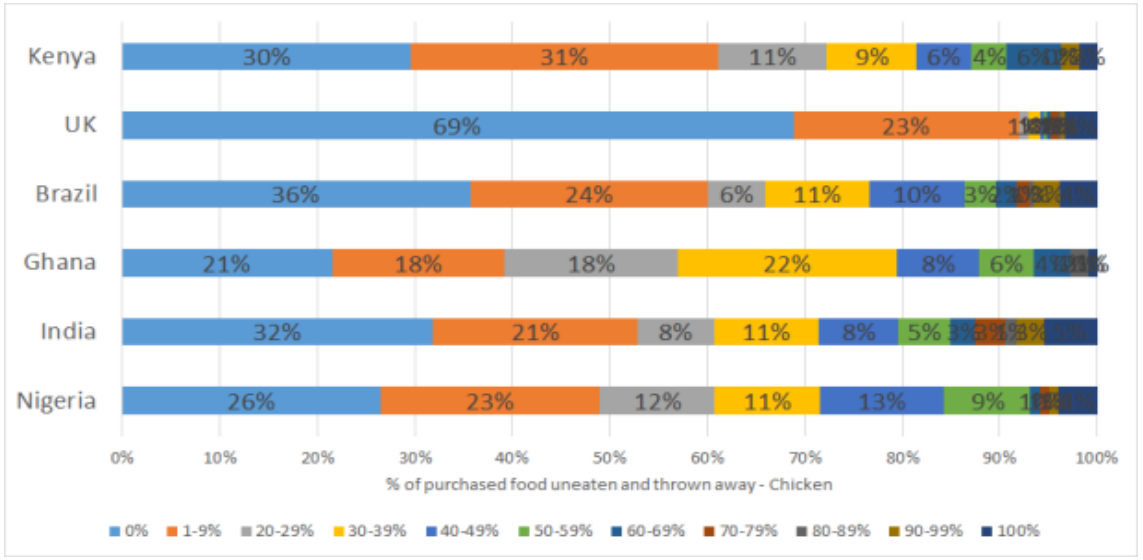
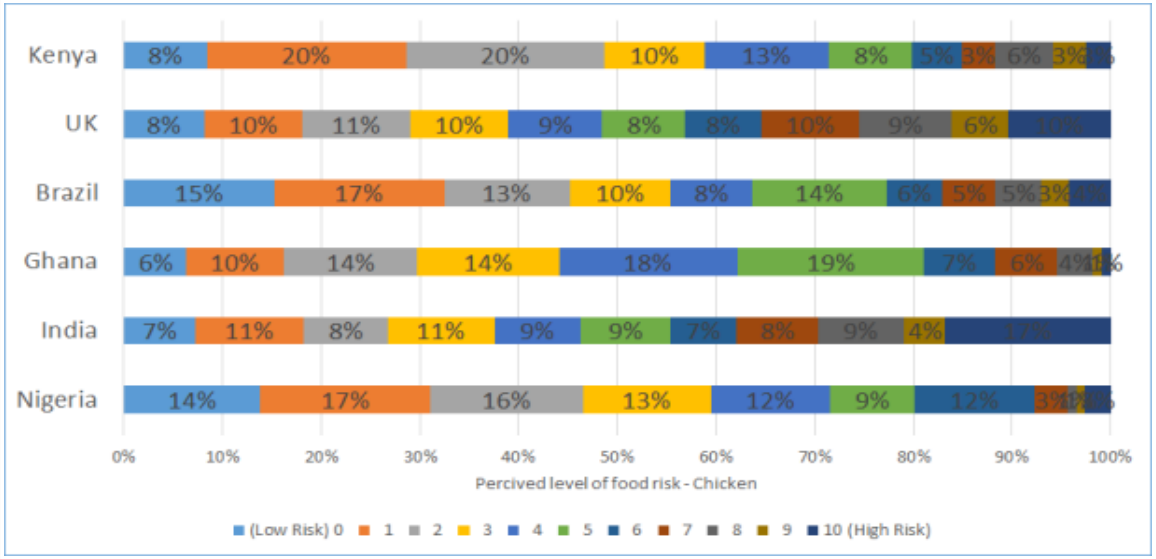
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