LARGE SURVEYS AND SMALL VOICES:

Meanings of Hunger in Pakistan

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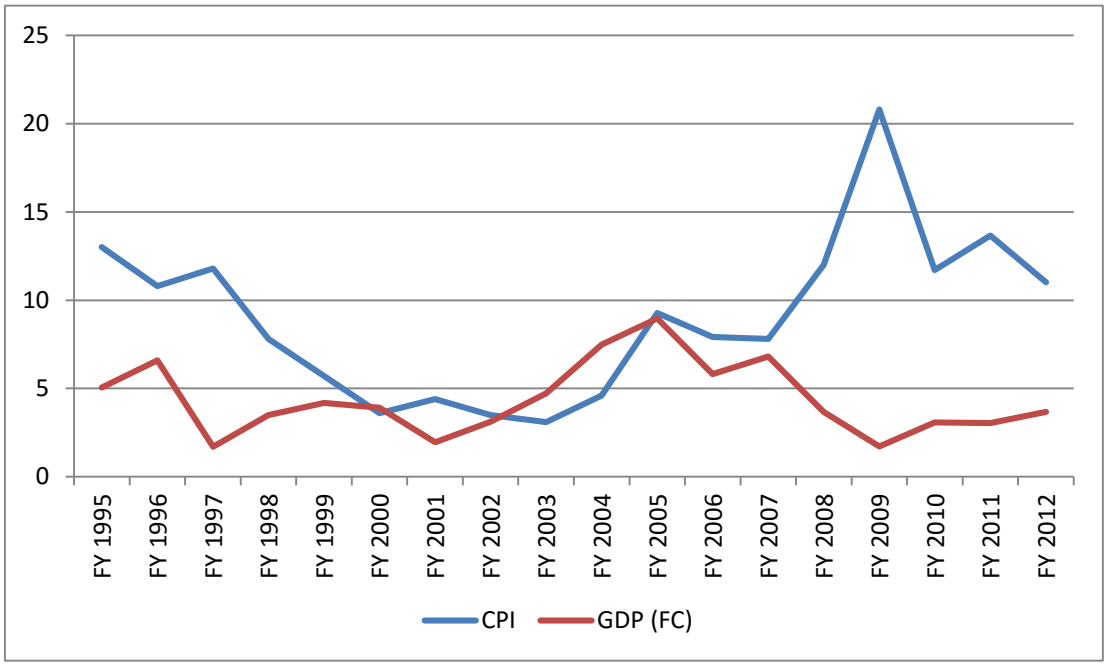
CONTENTS

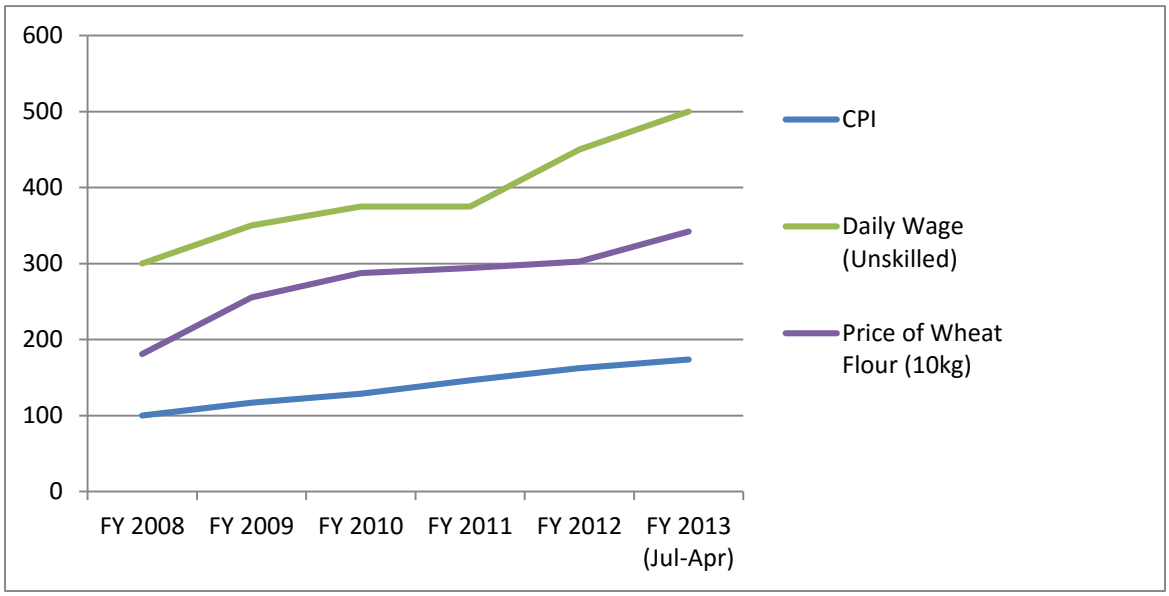
1 INTRODUCTION

This paper which forms part of a series of studies conducted in Pakistan under the Life at a Time of Food Price Volatility. The project was initiated as a response to the global food and fuel price crises and their manifestations in various national economies since around 2008. In Pakistan the major price hikes occurred in the fiscal years 2007-2008 and 2008-2009 (Figure 1). The impact of the ensuing price volatility was examined in Pakistan through in-depth case studies of 20 households – 10 each in rural and urban areas – over a period of three years (2012, 2013 and 2014).

Figure 1: Trends in inflation and GDP in Pakistan



Even though the peak of food price inflation and volatility passed in 2008-2009, the consumer price index nearly doubled in the period since then (Figure 2). There has been considerable controversy in Pakistan about poverty headcount ratios. Official figures based on household survey data collected by the government's Pakistan Bureau of Statistics (PBS) show an almost linear downward trend in poverty through the price crisis and beyond. This was seen as surprising because of the conspicuous nature of the economic crisis, the lowering of economic growth rates, and wide perceptions based on anecdotal evidence that poverty had risen. Other large household surveys including those conducted and validated by international organisations, however, show trends which are quite similar to PBS data. Wage rates for unskilled workers are sometimes used as proxies for poverty trends. These too indicate that wages increased in line with the price of wheatflour, which is the main staple food, and more rapidly than the overall rate of inflation in the post-2008 period.



The debate on poverty numbers has, understandably, shifted to questions about improvements in the quality of the data and the analysis. Food consumption, particularly energy intake, is an important element in the measurement of poverty in Pakistan. The official poverty line which is expressed in money terms is pegged to the level of household consumption expenditure which is consistent with a benchmark daily caloric intake. There are important questions about whether and to what extent a poverty line should be based on caloric standards, and also about how best to translate caloric standards into money terms.

Despite the importance of food consumption (or at least energy intake) in poverty measurement, there has been relatively little attention to what the household survey data actually tell us about food consumption. There is even less discussion thus far about what critical elements of hunger and food insecurity, as experienced by the poor and the vulnerable, the household survey data have not be able to address adequately. This paper hopes to highlight some of these gaps in our understanding of hunger and food security by taking another look at the survey data and juxtaposing these data with insights from qualitative research.

2 DATA SOURCES

The main source secondary data used for the purposes of poverty measurement are the Household Income and Expenditure Survey (HIES) series produced by the PBS. HIES is based on a nationally representative urban and rural sample. It has a detailed consumption module in which food consumption (quantities and values) are recalled for a wide range of possible food items. The recall period ranges from 15 to 30 days depending on food item. Besides food, the consumption side of the survey instrument includes questions about non-food consumption. Many of the empirical studies on poverty in Pakistan are concerned with constructing energy intake by applying calorie conversion rates to food items reported in the consumption module of the HIES, and using these alongside aggregated consumption expenditure from the same data source.

The only significant innovation in a nationally representative survey has been in the National Nutrition Survey (NNS) 2011 which asked direct questions about households' subjective experience with hunger and food insecurity. The NNS grades different levels of food insecurity based on adults and children in a household being reported as having experienced hunger, or having consumed a particularly impoverished diet. The NNS 2011 reported 28.4 per cent of the households in Pakistan were food insecure without hunger, 19.8 per cent were food insecure with moderate hunger and 9.8 per cent were food insecure with severe hunger. There was a higher prevalence of hunger and food insecurity in rural compared with urban areas. Unit level data for the NNS were not available for further analysis and the remainder of this paper will be focused on results from various rounds of the HIES.

Four rounds of HIES data are used here, one from before the peak of the food price crisis (2005-2006), one that coincided with the beginning of the crisis (2007-2008) and two in the period after (2010-2011 and 2011-2012).

3 ADEQUACY OF FOOD INTAKE

Data sources such as the HIES have important limitations in their reporting of energy intake. Food consumption is recalled for the household as a whole, while energy intake standards are for individuals. Qualitative research for the FPV project showed that while food consumption is primarily organized around the household, there are many situations where reliance on household level information is problematic. There can be consensual as well as imposed inequalities in the distribution of food within a household. Parents generally prioritise satiating the hunger of children over their own needs, and women often prioritise the needs of men. There is also a great of food consumption outside the context of the household at times of stress when children are sent to eat at relatives' homes, or when individual household members fend for themselves. Information about food intake can also be limited if some individuals, particularly working men, take their meals outside the home.

One way of bridging part of the gap between individuals and households is to apply adult equivalence scales. These scales are often chosen arbitrarily with an underlying assumption that children have smaller caloric needs compared with adults. Calorie counts can be extremely sensitive to the weights

used. In this paper we have taken a scale which assigns children aged 15 a caloric "need" which is equivalent to 60 per cent of the benchmark requirement for an adult. Using a scale of in which children's needs are set at 80 per cent of adult requirements can have a major impact on the estimate of energy intake adequacy in the population.

A related issue is the lack of "objective" agreement on minimum energy requirements for adults or for children. In Pakistan the current standard is 2,150 kcal daily for an adult undertaking "normal" physical activity. Not only is the definition of "normal" vague and difficult to interpret, the actual standard has changed over time. Before 2011 the preferred official standard was 2,350 kcal daily.

If objective standards vary, is there a way in which people's subjective perceptions of their own food intake and its adequacy might be a complementary source of information. Open-ended data collection methods, such as the in-depth interviews conducted for the FPV project, highlight issues in the way individuals and households perceive food adequacy and hunger. While the physical sensation of hunger is not a chronic condition, as shown in the NNS, a large segment of the population does report experiencing hunger. Our qualitative research suggests that households or individuals within households face hungry days as a result of a variety of adverse shocks.

The focus on hungry days also implies what people regard as an acceptable norm for themselves. This too varies greatly between individuals and households depending on what they are used to. The poorest rely on very simple meals consisting mainly of wheatflour bread or roti. For them a hungry day is when they do not have enough bread to satiate the physical sensation of hunger. Those who are somewhat better off regard the absence of accompaniments such as vegetable curry as a signifier of a hungry day.

Table 1 reports the distribution of the population by daily energy intake using an adult equivalence scale that treats children aged 15 or under has having 60 per cent of the requirement of a normal adult. Around half the population of the country had a level of energy intake which was lower than the officially proposed 2,150 kcal/day standard. If a different equivalence scale had been used – say children having caloric needs equivalent to 80 per cent to those of adults – the results would be vastly different. In 2007-2008, for example, 64.5 per cent of the population would have been below the official standard using this equivalence scale, compared with the figure of 48.3 per cent reported in Table 1.

Table 1: Distribution (per cent) of population by daily energy intake – kcal per adult equivalent[1]

Daily caloric intake up to	2005-06	2007-08	2010-11	2011-12
1500 kcal	10.9	10.2	7.0	9.2
1800 kcal	24.9	25.5	20.9	24.2
2000 kcal	36.7	38.0	33.9	39.1
2150 kcal	46.3	48.3	44.6	50.7
2500 kcal	66.3	69.2	67.5	72.5

[1] The Government of Pakistan changed the minimum energy requirements to 2150 calories in 2011 as opposed to 2350 calories in the previous years.
http://www.pc.gov.pk/usefull%20links/Food%20Basket%20Report/Final%20Report%20on%20food%20basket.pdf
FAO:
http://www.fao.org/fileadmin/templates/ess/documents/food_security_statistics/metadata/undernourishment_methodology.pdf

These methodological caveats notwithstanding, Table 1 is instructive of a number of trends. Energy intake inadequacy (measured as the proportion of population consuming less than the prescribed standard) increased in 2007-2008 or the year of the price crisis. It declined sharply – i.e. energy adequacy improved – in 2010-2011, to worsen again in 2011-2012. Extreme deprivation – the proportion of the population consuming 1500 kcal/day or less – declined steadily throughout this period until 2011-2012 when it rose sharply, but not to the pre-crisis level. These variations are not amenable to simple explanation with reference to broader economic trends.

4 RURAL-URBAN DIFFERENCES

Food energy intake analyses in South Asia show that rural energy consumption tends to be higher than that in urban areas.[2] Table 2 illustrates this contrast. In 2011-12 45 per cent of the rural population consumed fewer than 2,150 kcal daily compared with 62 per cent of the urban population. These figures stands in contrast with the findings of the NNS for the same year that in terms of subjective reporting of food insecurity and hunger, 32 per cent of rural households were food insecure with hunger, compared with 26 per cent of their urban counterparts. One way in which the paradox of poorer rural areas consuming more calories is explained is with reference to higher caloric needs in rural areas due to physically more demanding work and lifestyles.

Table 2: Distribution (per cent) of population by daily energy intake by urban and rural areas – kcal per adult equivalent

Daily caloric intake up to	2007-08		2010-11		2011-12	
	Urban	Rural	Urban	Rural	Urban	Rural
1500 kcal	16.5	7.2	11.3	4.8	12.9	7.3
1800 kcal	36.5	20.1	31.0	15.8	32.7	19.8
2000 kcal	50.9	31.6	46.6	27.6	49.0	34.2
2150 kcal	61.2	41.9	57.7	38.1	61.9	45.0
2500 kcal	79.7	64.0	79.3	61.6	82.0	67.8

The idea that rural areas have higher caloric consumption due to greater need can be examined further using energy intakes of people in households which report different occupations for the main earners. This is, of course, an imprecise proxy for physical labour for the entire household. It is indicative, however, that households which report farming as a main occupation consume significantly higher energy than non-farm households (Table 3).

The association between physical activity and calorie intake is nuanced. Households where the main occupations are agricultural and non-agricultural labour are particularly prone to hard physical work. In 2011-12 agricultural labourer households consumed 8 per cent fewer calories than the rural average – 2,126 kcal per adult equivalent daily, compared with 2,312 kcal for all rural households. Non-agricultural labour households also consumed slightly fewer calories than the urban average – 2,064 kcal compared with 2,072 kcal. Despite doing hard physical labour individuals in these households consumed fewer

[2] See, for example, Deaton and Dreze (2009) on India.

calories than their wealthier comparators. The rural-urban difference in calorie intake patterns stands out, moreover, as agricultural labourers consumed slightly more calories than the urban average.

Table 3: Daily energy intake (Kcal per adult equivalent per day) by occupation of main earner of economic status of household

		2005-06	N	2007-08	N	2010-11	N	2011-12	N
Farming	Yes	2,543	4,609	2,468	4,238	2,556	3,666	2,439	3,727
	No	2,169	10,701	2,160	11,210	2,204	12,659	2,143	12,058
Agricultural labour	Yes	2,157	1,382	2,197	1,321	2,181	1,442	2,126	1,524
	No	2,321	13,928	2,270	14,127	2,323	14,883	2,245	14,261
Nonagricultural labour	Yes	2,121	3,739	2,102	4,101	2,147	4,671	2,064	11,695
	No	2,367	11,571	2,323	11,347	2,375	11,654	2,292	4,090
Agricultural land	Yes	2,646	3,217	2,554	2,822	2,627	2,407	2,530	2,272
	No	2,184	12,093	2,178	12,627	2,228	13,918	2,160	13,513
Remittance	Yes	2,590	2,602	2,499	2,309	2,477	2,253	2,442	2,469
	No	2,241	12,703	2,218	13,057	2,280	14,071	2,190	13,316

Rural-urban differences from the qualitative research highlight a number of factors which might help to unravel the paradox of lower incomes, higher caloric intake, and more acute perceptions of hunger in rural areas. While the livelihood strategies and social interactions of the poorest in both rural and urban areas revolve around their food economies, there are important differences. The rural food economy is based on the harvest of the main staple, while the urban poor have more diverse sources of food acquisition or income earning. Hungry days in rural areas are concentrated in the lean season before the wheat harvest, while in urban areas these occur more randomly due to various shocks. Some foods, including the main staple as well as seasonal green vegetables and selected dairy products can be acquired at relatively low cost at particular times in the rural areas. Cereals are acquired relatively more cheaply in rural compared with urban areas, and the difference in relative prices might be a source of higher rural caloric intake in addition to need.

5 DIET DIVERSITY

The source of calories is instructive, and this indicator is not dependent on caloric standards or equivalence scales. In general, richer and more diverse diets would be based on a higher proportion of calories coming from non-staple foods. Cereals account for over half the calories consumed (Table 4). It is interesting to note, however, that the two years which saw decline in overall energy intake (2007-2008 and 2011-12) over the preceding survey year, did not see major reductions in non-cereal calories. This finding also suggests that food security trends are complex and not amenable to straightforward explanations.

Table 4: Energy intake by food source (kcal per adult equivalent per day)

	Total	Cereal	Non cereal	N
2005-06	2,304	1,283	1,021	15,310
2007-08	2,264	1,196	1,068	15,449
2010-11	2,310	1,225	1,086	16,325
2011-12	2,232	1,178	1,054	15,785

Contrasts between various population segments in terms of their calorie sources shows that cereal calories account for much of the difference in overall energy intake between urban and rural areas (Table 5). The difference between the poorest quintile and the population as a whole, however, is driven quite largely by the poor's low consumption of non-cereal calories, who obtain 60 per cent of their overall energy from cereals.

Table 5: Energy intake by found source (kcal per adult equivalent per day) for various population groups, 2011-12

	Total	Cereal	Non-cereal	N
All	2,232	1,178	1,054	15785
Urban	2,072	1,008	1,064	6729
Rural	2,312	1,263	1,049	9056
All (poorest quintile)	1,751	1,056	695	1578
Urban (poorest quintile)	1,652	986	666	672
Rural (poorest quintile)	1,715	1,042	673	905

There is close correspondence with the findings about diet diversity from in-depth qualitative research. The most food insecure rely almost exclusively wheatflour bread. They use very simple accompaniments such as sweetened black tea, or chutney made from salt, onions and chilies. Potato curry is another common accompaniment, as is fresh milk or buttermilk in rural areas. The way that the poor say they prioritise the composition of their diets is confirmed by the reporting on actual consumption.

6 MARKETS AND FOOD

The HIES asks households to report the source of the food they consumed – whether it was purchased from the market, received in kind, was own-produced or was given otherwise by someone. Over 80 per cent of the total value of food consumption was bought from the market, and this proportion increased somewhat over time (Table 6). Own produce declined in similar measure. Urban households, understandably, relied more on the market than their rural counterparts (Table 7). Even in rural areas, however, three-quarters of the value of the food consumed was purchased from the market, and the ratio was much higher (83 per cent) among the poorest. The relatively higher reliance on own-produce in rural areas (particularly for the main staple) and thus lower cost may account to some degree for the higher reliance on cereal-based calories.

Table 6: Food sourcing- Proportion averages

	Paid	In kind	Own	Receipt	N
2005-06	79	1	18	2	15,310
2007-08	80	1	17	2	15,449
2010-11	82	1	15	2	16,325
2011-12	82	1	15	3	15,785

Table 7: Food sourcing- Proportion averages for 2011-12

	Paid	In kind	Own	Receipt	N
All	82	1	15	3	15,785
Urban	95	0	3	2	6,729
Rural	75	1	21	3	9,056
All (poorest quintile)	83	2	12	3	1,578
Urban (poorest quintile)	96	0	2	2	672
Rural (poorest quintile)	83	2	12	3	905

Qualitative fieldwork highlights a number of complementary issues with respect to food acquisition and the prevalence of markets. Some of the poorest in the qualitative sample, both in rural and urban areas, relied almost entirely on non-market sources for their food consumption. Food circulation in the form of exchange at significant social or religious events, and sharing food with relatives and neighbours was found to be common. In the rural fieldwork site there was also access to some forms of food (such as leafy vegetables and buttermilk) free of cost at times of surplus. Reciprocal exchange gave way to informal food assistance if one party was considered to have suffered an economic shock. The giving and receiving of charity was another important source of food for the poorest, and there was some overlap between charity and outright begging. There were households in the qualitative sample in the rural as well as urban site which depended entirely on charity or begging.

While large national surveys like the HIES do enquire about the source of various food items consumed, it is generally only through in-depth questioning that sources such as begging and charity are revealed. It is likely, therefore, that large surveys underestimate the importance of some non-market sources of food. There are other aspects of food acquisition where large surveys might neglect the growing significance and changes in food markets. Survey consumption modules take the kitchen as the primary source of

food, and it is likely that the consumption of prepared foods might be overlooked. Qualitative research for FPV shows that a wide range of prepared foods are now routine parts of the diet among rural and urban communities alike. Rusks and biscuits, for example, are often used for breakfast along with tea. Household members who work away from home often buy their daytime meals from restaurants, and sometimes bring home takeaway food for their families.

Another element in the food market is segmentation by location in price and quality. Communities in low income localities buy less fresh vegetables which are available at lower prices. Even manufactured foods such as biscuits and packaged snacks have segmented markets. These are issues with respect to food quality and safety which are not easily detected through HIES type surveys.

7 CONCLUSIONS AND RECOMMENDATIONS

Although food consumption and security seem to be important considerations in the measurement of poverty in Pakistan – as evidenced by the pegging of the official poverty line to a caloric standard – data sources do not adequately capture either the problems of hunger faced by the poor or the nutritional implications of these problems. Analysis of HIES data show that indicators on the prevalence of food insecurity can be highly sensitive to methodological considerations such as equivalence scales and caloric standards.

Qualitative insights further suggest that the problem of hunger and food insecurity can have important intra-household dimensions as well as issues related to time. Neither of these are captured well in HIES type data. Qualitative research showed that different individuals are effected differently at moments of economic stress. The household economy of the poorest is constructed around the acquisition of food and the prevention of hunger, and diversifying sources of food for the household as a whole and for individual members is part of everyday coping. Moreover, there are hungry days – around idiosyncratic shock, and around seasonality in rural areas – which standard recall methods of the HIES cannot address. A household might eat well generally and yet be vulnerable to hungry days. Vulnerability to hunger might also arise from conflict within the household or with wider support networks.

Quantitative data confirm the importance of the distinction between cereal and non-cereal foods, and the association of dietary diversity with food security. These data support the insights from qualitative research that the poorest have very monotonous diets with few sources of diversity and nutrient-dense foods.

Trends in food consumption suggest that there are complex factors at play, or that existing data sources are unable to capture the impact of broader macoeconomic shifts on food consumption. There are differences between survey years which cannot be easily explained using broader economic indicators. In some ways this is in line with the findings of qualitative research which showed that, particularly for the poorest, idiosyncratic shocks and life-cycle events are more prominent sources of change than broader economic conditions.

As they are currently organized, large scale surveys collect a great of information which is of relatively little use to an active and effective understanding of hunger and food insecurity in Pakistan. Many of the results are, in any case, highly sensitive to apparently inconsequential methodological choices. There are other questions which are relatively simple to ask and can provide enormous insights for policy making and public action which are missing from these surveys. Qualitative research findings can better inform the design of large surveys if the latter are to be aligned more closely with stated public policy goals such as reducing food insecurity and improving nutrition.

There are several areas where qualitative insights from research such as that conducted for FPV can play a constructive role in informing broader data collection.

One, while there are obvious limitations in relying on subjective perceptions of hunger, such information can complement the food consumption recall based methods used by the HIES and other surveys. Although large surveys do convey the deficit in food consumption, the tendency to translate this immediately into income and poverty metrics deflects attention from food consumption. A more direct focus on food and hunger will be helpful in identifying potential possible sources of political support for policy action for the prevention of hunger. Probing the prevalence and correlates of hungry days can provide important insights to policymakers on the design of social protection and hunger alleviation programmes.

Two, while HIES and other such surveys provide valuable information on food consumption, some of the elements of their basic structure might have started coming in the way of a more accurate understanding of what is happening with food consumption, particularly among the poor. The household remains the primary source of food for individuals, but there is a need to go beyond the household to also examine situations where the household might not be a reliable unit of observation. Greater openness in this regard might lead to more awareness among the policy community about the need for approaches which directly address individual food insecurity in addition to household food insecurity.

Three, the kitchen-based approach to food recall in large surveys might lead to the neglect of significant changes in the food economy of urban and rural communities alike. The reliance on non-market and non-kitchen sourced foods through charity and informal food assistance on the one hand, and the growing presence of prepared foods in the diet, both pose challenges to policymakers. There is need for more dedicated survey instruments, which do not rely entirely on a kitchen-based approach, to reflect these changing realities.

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Published by the Institute of Development Studies under ISBN 978-1-78118-279-6 in April 2016.

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