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### Poverty in African households: the limits of survey and census representations

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# Poverty in African households: the limits of survey and census representations

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**ABSTRACT** *African poverty statistics depend on household-level measurements from survey data, making the definition of household of critical importance. Detailed case studies from Tanzania and Burkina Faso explore (1) understandings of household membership and ambiguities, and (2) how well survey definitions capture households as economic units, and the implications for household size and responses to and mitigation of poverty. We develop an analytic framework of 'open' and 'closed' households. 'Open' households cope with poverty using flexibility, movement and extra-household networks, but are poorly represented by survey data. Closed households are likely to be better described by survey data.*

## 1. Introduction

Measuring poverty in Africa and understanding its determinants and dynamics have become increasingly important with the targets set by the Millennium Development Goals (MDG) and the post-MDG agenda. There are diverse approaches to studying poverty: it can be measured as relative or absolute (Kakwani & Silber, 2008) and conceptualised as multidimensional or fuzzy (Alkire & Roche, 2012; Qizilbash & Clark, 2005). Although analysis may be undertaken at individual, household, district, national or regional level, understanding determinants and outcomes of poverty has largely focused on the household level.

In countries with minimal state support of the poor and vulnerable, the domestic (that is, co-residential and usually familial) group is the primary source of support, socialisation and resources. Although the really poor often live outside households (homeless, street children), few data capture and measure their well-being, because not being attached to households makes them statistically invisible. Many researchers see poverty, particularly persistent poverty, as fundamentally a household-level problem (Barrett, Carter, & Little, 2006). Livelihood approaches construct the household as 'a site in which particularly intense social and economic interdependencies occur between a group of individuals' (Ellis, 2000, p. 18). Thus, data for poverty analyses need to be collected on households. This article focuses on difficulties and dilemmas in doing this where survey and census definitions of 'household' encompass a notion of a bounded, largely impermeable, unit. We examine the limits of the survey approach when such a unit is applied, the implications for variables such as household size, and the ramifications for data analysis and thus understanding poverty and its determinants. We consider

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what sorts of poverty-related issues may be missed or inaccurately represented because of the ways ‘household’ is defined in surveys.

Anthropological critiques of economic well-being using the notion of ‘household’ are well-established. Guyer and Peters demonstrated that an economic concept of household mapped poorly onto African social and economic organisation (Guyer, 1981; Guyer & Peters, 1987). They emphasised three key conceptual principles: (1) African households are not discretely bounded groups and different household members can draw on different personal networks to access resources; (2) households are not fixed forms but constantly evolving; and (3) households are differentiated along lines of gender and generation. These principles continue to apply today, and Guyer and Peters’s perceptive analysis is an essential backdrop to this article. Despite these longstanding anthropological insights into the nature of African households, much quantitative data collection and many analyses choose not to take account of them.

## 2. Household-level poverty

Analyses, measures and understandings of the dynamics and determinants of household-level poverty reveal issues and contradictions about the ways in which the concept of household is used in the poverty literature.

### 2.1 *Measures, Data and Reliability?*

Disciplinary background (economics, anthropology, geography, and so forth) plays a key role in shaping data and analytic approaches to poverty (Howe et al., 2012). Studies of poverty outcomes, or those using poverty as an explanatory variable, exploit a wide variety of data sources; nationally representative household surveys – Household Budget Surveys (HBS), Living Standards Measurement Surveys (LSMS), Demographic and Health Surveys (DHS) – purpose-designed representative household surveys for geographic areas; and studies with total or partial coverage of small communities. National surveys use definitions of household developed by the local statistics office with membership based on criteria largely designed to avoid double counting (Randall, Coast, & Leone, 2011), although some surveys (notably HBS) allow absent members of the household and their assets to be included, whereas DHS excludes absentees. Purpose-designed surveys and small-scale studies often develop their own definitions of household, but many publications are unclear about what definition has been used and how they treat categories of people such as absent household heads, migrant men, polygamous unions, students and children at boarding school.

Data availability influences analyses of poverty dynamics over time (Booyesen, Van Der Berg, Burger, Maltitz, & Rand, 2008; Owens, Sandefur, & Teal, 2011). Prospective, high-quality data remain rare in sub-Saharan Africa, reflecting the burdensome administrative and financial costs involved, although the production of longitudinal and panel data (Adato, Lund, & Mhlongo, 2007; INDEPTH, 2013; NBS, 2009), and analyses (Barrientos & Mase, 2012; Bigsten, Kebede, Shimeles, & Tadesse, 2003; Dercon & Krishnan, 2000; Emwanu, Hoogeveen, & Okiira Okwi, 2006; Hoddinott, 2006; Little, Stone, Mogues, Castro, & Negatu, 2006) is increasing. Small-scale studies of the mobility of households into and out of poverty have used longitudinal data to retrace households and their transformations through time with qualitative assessments of poverty (Mushongah & Scoones, 2012; Peters, 2006; Whitehead, 2006).

Household-level data collection has the practical advantage of generating data for several people from interviewing one person: this assumes that one person is capable of responding accurately for the whole unit – shown to be incorrect in Malawi (Fisher, Reimer, & Carr, 2010). Comparing data from livelihood portfolios with Participatory Rural Appraisal data, Jagger, Luckert, Banana, and Bahati (2012) concluded that the different methodologies tell very different stories and that relatively few findings are robust across data sets.

## 2.2 *Quantitative, Qualitative or Mixed Methods?*

Economic approaches to poverty require quantifiable measures; income, expenditure or an assets-based index (Howe et al., 2012) which largely ignore dimensions of poverty related to [lack of] social support, social networks, aspirations and social participation that are difficult to capture through standard household survey data (Thomas, 2008; White, 2002). Development practitioners working in small-scale rural communities have used relative wealth-ranking techniques (Grandin, 1988) for categorising households into poor and less poor, which integrate detailed preparatory group discussions to reveal local ideas about critical dimensions of poverty. Ranking of households can be compared with data from household surveys. Scoones criticises wealth indicators derived from survey data, both because they are chosen by the analyst and the survey instrument design limits potential analyses (Scoones, 1995). His household-ranking work in Zimbabwe uses local definitions of household which ‘relate[s] to a spatially defined unit associated with a particular group of people’ (p. 69, fn.3), including potentially absent household members, especially men aged 30–45 who would be excluded from many survey-defined households but are critical household members.

Mixed methods research on household poverty (Ellis & Freeman, 2004, Hargreaves et al., 2007, Mushongah & Scoones, 2012) finds that local perceptions are frequently grounded in social exclusion – those with limited social networks and support systems. Throughout Africa, ‘wealth in people’ remains important and a key dimension of poverty is an absence of access to extra-household networks. Guyer and Peter’s conceptual principle (Guyer and Peters, 1987) that households are not discretely bounded remains valid despite rapid social change.

## 2.3 *Household Size*

Most quantitative analyses of survey data on household wealth and poverty include household size as an explanatory variable. White and Masset (2003) challenge such analyses on several grounds: household size over time is not stable; and whilst, in surveys, household size is typically measured cross-sectionally, economic (consumption and production) data tend to use a recall period. African seasonal labour migration, livelihood diversification and child mobility contribute to high levels of household membership mobility. We could find no African studies focussing on the stability of household membership, but in El Salvador only about half the households remained stable over a year, both losing and gaining members (Halliday, 2010).

## 2.4 *Understanding African Household Poverty*

Contradictory findings emerge from the many ways of measuring and interpreting African household poverty with attendant problems in pinpointing the nature of poverty and appropriate policy interventions. Analyses rarely explicitly consider the nature of the ‘households’ they are studying. This is particularly the case with secondary analyses of nationally representative surveys, which tend to find that increasing household size is associated with increasing poverty. The more anthropological and qualitative the research, the more likely it is that the researchers explain what they understand by household and use locally grounded definitions of household; frequently the definition of household membership is more inclusive than definitions used in national household surveys (Randall, Coast, & Dial, 2013; Randall, Coast, & Leone, 2011). Such studies generally find that larger households are less vulnerable (Scoones, 1995; Sharp & Devereux, 2004; Whitehead, 2006).

Whitehead’s (2006) longitudinal study in rural Ghana describes: ‘a virtuous circle between wealth and household labour supply and a vicious circle between poverty and small household size and poverty traps existed so that those with too little labour and too little wealth engaged in strategies which entrenched them in poverty’ (p. 278). Whitehead’s anthropological approach, taking emically defined households and demonstrating the wealth and security that people bring, contrasts with definitions used in nationally representative surveys which split large compounds into small

constituent nuclear families or husband–wife units, thus losing sight of collective responsibilities and solidarities.

Extra-household social relationships and networks are critical in affecting vulnerability to experiencing poverty and the ability to cope with crises: such issues are missed by measures of household income, expenditure or assets, or by research which focuses on the household as a bounded and discrete unit. ‘Wealth in people’ emerges repeatedly from anthropological studies, and from discussions of the nature of wealth and poverty in wealth ranking exercises, alongside the critical importance of extra-household social networks and relations for not being categorised amongst the poor (Barrett et al., 2006; Little et al., 2006; Whitehead, 2006). People who have had social connections excised through death or migration are regularly highlighted as being poor: widows; the divorced; orphans; and elderly people whose families live elsewhere (Ellis & Freeman, 2004)

### 3. Aims

This article investigates what sorts of poverty-related issues may be either missed or inaccurately measured because of the ways ‘household’ is defined in nationally representative household surveys. Household definitions usually preclude individuals belonging to two or more households. They are critical in constructing ‘household size’ and may limit analyses of flexible household membership. We examine potential relationships between household size, flexible household membership and poverty and how these differ between local understanding of the basic domestic and economic unit and that generated by a nationally representative survey.

#### 3.1 *Data and Methods*

This article uses two sources of data collected within a multi-country, mixed methods research project. A review of the definitions used in African surveys and censuses since independence examines changing constructions of the survey household over time and countries (Randall et al, 2013), and informs our analyses of in-depth interviews with purposively selected ‘households’ in Tanzania and Burkina Faso. In each country around 50 in-depth interviews<sup>1</sup> focused on emic perceptions of their household membership. We did not impose a definition of household but used local words for residential or domestic group along with the words or phrases used to translate ‘household’ in national surveys to explore who were considered to be members of the residential group and how this mapped onto economic solidarity or independence. Because many census and survey definitions emphasise eating from the same pot, we also investigated cooking and eating arrangements. Our discussions collected data on relationships between different members, and thus identified absent husbands/wives/sons/daughters and so forth. In doing so, we explored why absent people might be included or excluded from the group, the support links within and outside the household, evidence for membership of several households or transitory status and ambiguous household membership. In Burkina Faso we interviewed 12 households in each of an unplanned poor settlement and a well-established district within the capital city, a small town and a rural area.<sup>2</sup> Tanzanian households were selected from two rural areas and a planned and unplanned district in Dar Es Salaam. Our case study areas in each country were selected because prior knowledge suggested they might include situations which were poorly represented by household surveys and to capture some linguistic and social organisation diversity. They are not statistically representative – they provide indications of the limitations for understanding poverty and responses to poverty through household survey data, and point to directions for further research.

In order to examine the parameters of standardised surveys we post-hoc applied the DHS definition<sup>3</sup> (identical in both countries) to our self-defined case study households. We chose to apply the standard, and relatively simplistic, DHS definition because internationally recognised DHS data are widely used by secondary analysts, in part because of their easy availability and their comparability and DHS data are one data source for indicators for the Millennium Development Goals.

### 3.2 Analytic Framework

We develop the analytic concept of ‘closed’ and ‘open’ households. We assume that in all societies the majority of people feel obliged to provide support for their own children. In much of Africa there is a strong obligation to contribute also to the family of origin – elderly parents and adult siblings – despite evidence that, faced with increasing demands, monetisation, costs of schooling and demands for material goods, the pressures to invest in the younger generation nuclear family are increasing (Aboderin, 2004; Roth, 2010). We describe as ‘closed’ a household whose members invest resources and support those in their nuclear families of descent and origin and receive or ask for help only from these same people; such households generally have fairly stable membership without a constant flux of people with different rights, expectations and obligations. Households who offer, give, receive or ask for help or support from a wider range of kin or others we classify as ‘open’. It is often difficult to establish membership of these open households in a survey because of frequent movements and reconfigurations as different individuals exploit different social networks and obligations to try to generate some security in stressful economic contexts.

## 4. Results

Using case study households, we illustrate the concepts of openness and closedness, the reasons behind and ways in which closedness/openness are rationalised and explained, and then consider the ways in which these interact with household definitions and the implications for household size and resources in surveys and practice.

### 4.1 Open Households

Many case-study households had very flexible membership, with multiple support links (both providing and receiving support); deciding who should be counted as a household member and where household boundaries lay was problematic. The openness of Tanzanian rural households was partly a consequence of the villagisation process which, in our study sites, separated residential areas from key production areas (whether fields, water bodies or pastures), thus enforcing mobility.

*4.1.1 Flexible urban households.* A key asset of urban households was provision of accommodation for incomers. In both Dar Es Salaam and Ouagadougou there were large heterogeneous households in compounds, with flows of individuals in and out, often circulating from rural areas, bringing rural produce, working in the city and then returning.

*4.1.1.1 Case study 1: Ouagadougou planned district.* Around 20 related (children, grandchildren, nephews/nieces) people (aged 11–60) lived in seven rooms around the compound inherited by Aicha and Fadi, the two widows of the former owner. No one had full-time employment – many did petty commerce or worked as servants when they could. Two cooking pots belonged to Aicha and Fadi, but they hadn’t cooked and eaten together for two weeks because they lacked resources. Those with money each day would go and buy street food and might share with those who didn’t. The compound provided free accommodation for new arrivals from the village – residents would borrow (and repay) from other residents if they needed money. There were no identifiable ‘households’, and yet the 20 people did not form a single economic unit. In a survey this compound would be treated as many single- or two-person households – yet there was far more kinship-based solidarity between the individuals than this implies. Although Aicha, Fadi and their sons were always present, other residents changed frequently.

*4.1.1.2 Case study 2: Dar Es Salaam planned district.* An impoverished widow, Grace, lived in squalor with her four adolescent children on a valuable plot of land. Two of her husband’s nephews had lived with her for many years – she fed them when she had food and money, they contributed



when they had money. Three other nephews lived, rent-free, in a separate house on the plot. They rarely ate with Grace's family and occasionally gave money, but their presence contributed to her strength in fighting a family battle over ownership of the plot. These nephews provided legitimacy and signified support for her greatest asset – yet they were not members of her household in terms of rights and obligations in the way that her children or the long resident nephews were.

In both cases plot ownership meant that economically insecure people offered free accommodation to others. The group benefitted from the increased probability that someone would have resources for food or other needs. All were very poor and frequently went hungry, although for both 'households' the plot was an asset which allowed the 'household' to be open to flows of members and the benefits this brought.

*4.1.2 Schooling and open urban households.* Schooling is a key pathway of developing human capital and moving out of poverty for policy-makers and African families alike. Managing access to education has complex interactions with household level measurements of poverty.

In all urban contexts, schooling is a constant source of mobility and often depends on 'open' households. To access good schools or schools with places, children move between households on a weekly or longer-term basis. Sometimes the family of origin pays for support, others depend on (or exploit) richer relatives to support their children. Resources and children flow in all directions; these movements may develop and consolidate networks or exploit relationships in order to improve future prospects through education. The students' economic relationship with the household where they stay may differ from those of more permanent resident children. Students usually come accompanied by some resources and their absence from their household of origin does not necessarily signify that they are no longer an economic drain. In small-town Burkina numerous education related strategies were observed: households received rural kin to attend secondary school, some paid for and maintained, others supported by their host families; primary school children were sent to live with kin in villages where there was less competition for school places; older children were sent to Ouagadougou to live with poor but well-placed relatives and received (often ill-afforded) resources from their households of origin; others were strategically placed with better-off relatives who supported their rural cousins.

*4.1.2.1 Case study 3: education mobility in Dar Es Salaam.* A nuclear family with two daughters live in one rented room without electricity. The clever older daughter, Mabel, spends weekdays at her aunt's, a teacher, who lives in a house with electricity where Mabel can do her homework. This strategic placement countered some of the effects of poverty. This family was not participating in the 'people are wealth' reciprocal networks: they were closed to resources and people going in and out with the exception of this one, highly strategic link. Her parents saw Mabel as part of their household, but she spent most of her time at her aunt's.

In such, frequently encountered, cases, household membership and, thus, size is difficult to determine. It would be hard to identify a single household where such children belong and where they would be declared in a survey, although clearer in a de facto census. Parents bear some costs and relatives bear others. Such movements of children both alleviate poverty and develop networks of obligation.

This leads us to reflect on what the household size captured by a survey actually means. Individuals who might be recorded as being household members have some rights and obligations in that domestic unit, but many have rights and obligations (often rather different ones) in a number of other households too.

In both capital cities plot-owning households were often forced into openness because of their accommodation resource, whereas those who rented rooms in the same areas were more likely to be closed because of space constraints. The latter were often attached to another rural household, undermining the idea of the urban household as a self-contained economic unit.

## 4.2 Closed Households

African traditional responses to uncertainty have developed around openness and flexibility of domestic unit organisation (Guyer, 1981, 2004), strategies that continue to be used to resolve short-term problems and develop long-term securities. But is household flexibility a ubiquitous response to poverty or potential poverty? Is there evidence that households are closed because they are poor, poor because they are closed, or are closed households very heterogeneous?

*4.2.1 Closed because 'poor in people'.* A number of households, mainly in informal districts in the capital cities, epitomised the idea that lack of networks engenders closedness and is a major dimension of poverty.

*4.2.1.1 Case study 4: Dar Es Salaam.* Mariame works as a night guard and lives in a rented hovel with her four daughters and a granddaughter. They all live off her guard's wages, and one clever daughter couldn't continue her education because they couldn't afford it. When asked why they didn't request relatives to help out, she replied that they had none who were in a better position.

*4.2.1.2 Case study 5: informal district, Ouagadougou.* Widowed Aichatou lives in a tiny house with her daughter Balkiss (20) who stopped lycée because of poverty. They came here when her husband's brothers sold her husband's plot when he died. Mamadou (aged 22) eats, washes and does his laundry in his mother Aichatou's house, but sleeps nearby with a friend – it is inappropriate for a man of his age to share a room with his mother and sister. Mamadou gets occasional work mending motorbikes and Aichatou sells firewood. They have few material goods, no one they can ask for help in an emergency and no one to whom they offer help. Aichatou cried during the interview; her dead husband's brothers never help.

Many closed and impoverished case study households are female-headed, although not all are devoid of potential male labour. Often there are kin who, in theory, could provide support, but either those kin are equally destitute or the links cannot be mobilised. Once a household has inadequate resources for food, they are then unable to participate in the networks of exchange and openness that could provide a safety net.

*4.2.2 Deciding to be closed despite poverty.*

*4.2.2.1 Case study 6: planned area Ouagadougou.* Maurice is an unsuccessful mechanic who lives with his wife and four children (aged 8–22) in a small house on a large bare plot which they own. Another house on the plot is let out and provides some income, but the plot has no water or electricity. Maurice struggles to send his younger three children to school, even with the assistance of a European sponsor, and although he has rich relatives he is too ashamed to ask for help.

Whereas others might exploit their large plot by receiving relatives, this household is very self-contained, neither receiving nor participating in kin networks.

*4.2.3 Strategically closed households.* Our study included some wealthier households. Although they were generous in terms of helping others, they did not do this through receiving large numbers of people, nor through household members moving around. There was a sense of control over movements in and out of the household which contributed to financial security. These households were not forced to be closed – and in fact they were only closed with respect to movement of people: they all contributed resources to poorer relatives and two were notable for general local good works. We can hypothesise that such strategically closed households are attempting to develop a virtuous spiral of poverty-prevention. By controlling movements in and out of the household, they were avoiding the potential negative consequences of unwanted additional household members and their needs.

Having established our analytic categories of open and closed households, present in both countries and in all contexts, we next consider the implications of household survey data for household size calculations, and potential associations between household size and poverty.

### 4.3 Household Size and Resources in Surveys and Practice

Household size is important, both as an explanatory variable but also, through income, expenditure or assets indices (Johnston & Abreu, 2013), because of the assumption that household members share access to resources and have comparable poverty or wealth.

In household survey data collection, large co-resident extended families are usually separated into smaller nuclei because household definitions depend on eating together. Yet, in both urban and rural Burkina and Tanzania, patterns of cooking and eating are often a matter of tradition – wives have always cooked separately – or practical convenience with little to do with access to household resources.

Particularly in rural areas, the self-defined households we studied were substantially bigger than those which would have been recorded in the DHS and most nationally representative surveys. This was very marked amongst the rural Maasai population in Tanzania where, for example, a 25-person polygamous household (a man, four wives and many children) would become four DHS households of which three would be female-headed. Ironically, such an approach means that bigger households may appear poorer because, by disaggregating down to a woman and her children, household size is largely determined by numbers of children; the largest households would have many dependent children, little adult labour and few assets. Furthermore self-defined units usually included a number of absent individuals: often young men away on labour migration who would be excluded from DHS surveys, yet who provided important remittances into the household. There were many examples, in both Tanzania and Burkina Faso, where the survey definition of household misrepresented household size and the group who were mutually supportive and pooled both resources and strains.

In south-west Burkina Faso, polygamously married wives often have separate cooking pots and, according to a DHS definition, should be treated as separate households with at least one being female-headed. However, all wives work the same fields and the harvest is stored in the same granary from which each wife gets her grain allocation; when the grain runs out it runs out for all. Resources or assets (rarely more than a radio or a bicycle) usually belong to the man, and thus the wife and children associated with him would appear to be a more asset-rich household. Women manage their own income from brewing beer, which husbands know about, but not how much, nor can they access this money (except through borrowing and repayment). To some extent these women-centred units are economically independent, but to a greater extent they are interdependent, because the man controls the household fields which provide the staple food, everyone works in the fields and the father pays children's school fees. Furthermore there is considerable co-wife collaboration over brewing and cooking. In terms of mutual support and solidarity, the larger emically defined household which contains several cooking pots and much cooperation and sharing of both resources and poverty is the key economic unit which generates wealth or experiences poverty.

Most 'open' domestic units included nieces, nephews, grandchildren, as well as dependent aunts or uncles. Accepting responsibility for these relatives adds more dependents and more mouths to feed; if the household is split in surveys according to women's cooking pots, it is not always clear where such dependents should or would be allocated. In both countries dependents from outside the nuclear family usually had some access to wider household resources and not just those from the woman with whom they ate. When these nieces/nephews/grandchildren grow up, the investment in them may be repaid through the wider network of obligations, thus exemplifying wealth in people, likely to be missed or misrepresented in cross-sectional household surveys.

*4.3.1 Case study 7: cooking arrangements and household boundaries.* One large (21-person) compound in a small Burkinabe town contained an old couple with married and unmarried children and grandchildren. People ate from three different cooking pots, and the old man, as household head, was given food from all three pots every night – as a symbolic gesture that they were one unit. They had one granary and all worked together on the household fields. Each son had occasional income from casual labour which was used for his wife and children. All the women occasionally brewed beer and the daughters-in-law sent part of their brewing income to their own mothers elsewhere. Thus, in some

ways each small nuclear family was an economic unit, but in more important ways this was one large interdependent unit.

Despite its size, this was a closed unit. Apart from help sent by daughters-in-law to their mothers, household members asked no one outside the household for financial help or support, but neither did they give it: their solidarity and security (they were poor but not destitute) came from within the compound. Such support would be lost in a survey, where three different households would be recorded: one, which would look extremely vulnerable with an old couple in their late 60s; and two unmarried daughters (one disabled), each with a young daughter. However, this apparently vulnerable unit received security from co-resident sons, their wives and older children.

*4.3.2 Rural household size and poverty.* Sometimes the openness of households combined with social responsibility of the household head generates economic stress.

*4.3.2.1 Case study 8: accumulating dependents.* Martin is 38 and lives in a small Burkinabe town. He is the household head and responsible for 28 people. His wife cooks for everyone. Martin describes himself as unlucky – his grandparents and his father all died young, and as the oldest son he inherited their obligations: he supports his mother (58); his father's unmarried brother (70); a grandfather's wife (75); and his father's divorced sister (45). He inherited responsibility for two unmarried female cousins with two and three children respectively. He has four younger brothers and three sisters, one of whom is widowed with two young children. Two of his brothers are married, one with two young children, the other with a pregnant wife, but their only source of income is the family fields, so they too depend on Martin. He has two children with his current wife. Household members work on the family fields, and some of the women brew beer. Martin works part-time as a butcher and had recently installed electricity into his personal house.

Martin's large household and numerous dependents are stressful but manageable. Without all these dependents his small nuclear family would be well-off, but many of his current dependents would be destitute. By maintaining this open household, not only is he reducing the net poverty in the community, he is also building up considerable moral credit. By investing in 'wealth in people' it is likely that, as his siblings and children become more productive and older people die, he could become very economically secure. Urban open households often included more dependents than they could really cope with, but by doing so kept large numbers of people out of extreme poverty.

Large (emically defined) households can reduce poverty because they permit diversification – as in Maasailand, where some adults cultivate, others herd cattle or work as migrant labourers. The security provided by such large domestic units allows them to be more open to absorbing the less fortunate. Despite an extremely strong patrilineal Maasai ideology, for whom the best translation of household, *olmarei*, is a patrilineal descent group, in three out of eight case study households, a married daughter was living in her father's *olmarei*, either with her husband or whilst her husband was away on migration. One such household head said 'they aren't really our *olmarei* but he is too poor to support her properly'. Another specifically noted that this was a temporary measure until her husband had enough resources to go it alone. The value of 'wealth in people' here is symbolised by breaking the residential rules. The impoverished woman and her husband become less poor because they are absorbed into the larger household.

Dividing social groups into the smallest constituent parts (as with many survey households) undermines understanding the ways poverty is managed through temporal dynamism of household economics and extra-household support provided by kin.

*4.3.2.2 Case study 9: in the throes of accumulating dependents.* Komo is a fairly poor newly married Maasai man. His mother (60) and four younger brothers (aged 13–30) live with him, although two brothers are currently working in Kenya. Komo encourages them to invest their earnings in livestock. Komo's drunkard older brother is in a separate household, but Komo is already taking care of him and his family: 'my oxen work his field; his small children get milk from my cows; his older

children get grain from my granary; his wife milks my goats'. He gave his brother a field and the village gave his brother's wife a field. Komo anticipates that 'I will have to take care of them completely when my brother deserts.'

In this transitional phase whereby two smaller households are merging, one is already almost totally dependent on the other, with poverty being managed by absorption and openness. Even when they merge, the married women will continue to have their own house and cooking pot; most surveys would treat them as separate households.

Applying any concept of household in rural Rufiji, Tanzania, is difficult (Lockwood, 1998). Diverse economic activities include fishing and farming which take place several miles from the village. Some household members (often an elderly couple) live by the fields all year round and others live in the village, with much movement between the two, sharing labour and harvest. Any survey would split such households because people are residentially separate. Within each emic household most married women had their own cooking pot and house, which would lead to further fragmentation of survey households. The 17 households interviewed in Rufiji would be at least 31 households using a DHS definition. Discussions around relationships between households demonstrated the role of openness in addressing crises. Hunger or acute poverty leads to temporary merging of households. One said 'we each have our own *kaya* [household]. Maybe when we are hungry we eat together: this can go on for months – one *kaya* will cook one day and one the next.' Rufiji adults had well-developed understandings about relatives they would cook and share food with regularly, sometimes, or very rarely. Children circulated much more freely; children in a poor, food-deficient household were usually fed by other households.

In rural areas and small towns two key issues need to be disentangled in order to understand the relationships between poverty and household size. Firstly, a major way of resolving poverty is for the poor to be either temporarily or permanently absorbed into a larger, wealthier unit, or to temporarily pool resources with another household. This makes wealthy households appear both bigger and poorer, whereas their very wealth and security enabled them to absorb dependents in the first place: the strategy for coping with poverty (pooling resources and problems) becomes an indicator of that poverty. Secondly, such strategies will rarely become apparent in survey data because survey household definitions split households into minimal cooking and sleeping units, which actually break ups the real units of social solidarity so that they cannot be observed.

*4.3.3 Urban household size and poverty.* In urban areas it is harder to say whether big households contribute to resolving poverty, because, since living space is both a key resource and constraint, the peopling of this space differs from rural areas. In both Dar Es Salaam and Ouagadougou most emic households were similar in size to DHS-defined households, with the exception that several also included absent household members. In many open urban households those who were received into apparently well-off households would have been poor or destitute otherwise; often, but not exclusively, unmarried daughters and their offspring, and orphaned or migrant nieces and nephews.

## 5. Discussion

Our detailed analyses of these case study households show the ways in which African households are (mis)represented in survey data. We extend the ways of thinking about collecting data from, and about, households, by developing complementary analytic categories: openness and closedness. These analyses have implications for understanding what household-level poverty statistics derived from surveys might be saying.

Survey definitions of a household often refer to those who eat together (Randall et al., 2013) assuming that this indicates an economic unit of consumption. However, eating together frequently does not constitute the key economic unit but is more a consequence of practicality or cooking traditions. Furthermore, it is often practically difficult to identify who does eat together, and urban poverty often entails street food rather than cooking.

Most nationally representative surveys require individuals to be members of one household only, but many people contribute to and/or take resources from two or more households, with temporally varied movements between households an integral part of poverty alleviation or poverty avoidance strategies. Temporary migrants are often excluded from surveys either as household members or contributors through remittances (Cramer, Johnston, Mueller, Oya, & Sender, 2014). Education is a major contribution to spatial mobility, manipulation of living arrangements and obtaining resources from multiple sources. Survey instruments and definitions that split households into geographical co-resident parts will make many look poorer and smaller than they actually are. Whereas such structural influences are geographically variable, national survey data may also mask local specificities.

Household ‘openness’ is a key dimension of short-term poverty avoidance and a long-term strategy for insuring against poverty by building and consolidating networks of obligation. ‘Wealth in people’ remains critically important in both urban and rural settings. Successful people attract others; coping, would-be medium-sized, households may become large households with many dependents because of their (relative) economic success. Yet, by becoming larger and absorbing impoverished kin, any relationship between household size/structure and economic security becomes difficult to disentangle. Contemporary investment in ‘wealth in people’ may cause temporary hardship, but has potential long-term benefits because of reciprocal obligations generated.

The idea of ‘open households’ should not be seen as a new definition and a burdensome tool to add to the complexities of data collection in African surveys. It is an interpretative category encompassing households for whom poverty indicators may be less reliable or restricted in the dimensions they capture. The challenge is therefore to find simple additional questions which could be added to surveys which would allow openness (or some dimensions of it) to be identified and explored in flexible ways, whilst retaining comparability. Our data collection experience suggests this should not be too challenging: most respondents clearly distinguished between occasional movements of resources to individuals who were not seen as members of their household (inter-household transfers) and people who were household members – albeit sometimes on rather different terms or at different times and who were often also part of another household. Openness thus does not constitute ‘anyone’ who contributes or benefits, but is about individuals who are generally perceived to have some claim to membership.

Much of African life remains inherently unpredictable (Johnson-Hanks, 2005): the AIDS epidemic has transformed many previously wealthy lineages; structural adjustment, civil service cuts and high graduate unemployment mean that education is no longer a guaranteed pathway to social success and security. In this context, strategies focusing on building networks of obligations and support remain valuable counteractions to poverty but are difficult to capture using household surveys.

## **6. Study Limitations**

Our research design, with a limited number of purposively selected households, uses a small number of cases drawn from poor communities, and excludes wealthier urban households, who may have very different strategies where being closed may be the pathway to economic success. However, the educated middle classes remain a small minority in most African countries, and our analysis is strengthened by its comparative approach and the diversity of contexts which reinforce the generalisability of our findings.

We limited our post-hoc application of survey definitions to the DHS because the data are open access, widely used and frequently include household-level poverty indicators through quintiles and assets indices, either as explanatory variables or as the dependent variable (Booyesen et al., 2008; Ickowitz, 2012; Masset & White, 2004; Sahn & Stifel, 2000).

## **7. Conclusions**

The implications of household definition for analyses of household survey data as they relate to poverty are poorly understood and rarely studied (Beaman & Dillon, 2010; Guyer, 2004; Hosegood &

Timaeus, 2006; White & Masset, 2003), despite long-established anthropological challenges to the notion of bounded, stable economic units. This lacuna persists despite a large volume of social science research that includes household-related indicators in its analyses. Our approach develops an interpretively grounded understanding of the ways in which households and individuals try to reduce, confront or avoid poverty, highlighting implications for the ways in which household survey data are analysed and interpreted.

For reasons of comparability, the definition of the household in many national surveys follows census operationalisation even though the rationales for the two exercises differ (Randall et al., 2011) with the census about complete enumeration and avoiding double counting. Surveys aim to provide micro-level information about individuals, their relationships with others and the determinants of outcomes, and our evidence shows that many adults and children mitigate and prevent poverty through membership or rights in resources of two or more households and therefore probably should be double (or multiple) counted in a survey. This approach has been successfully implemented in limited South African longitudinal data collection and analyses (Hosegood & Timaeus, 2006).

There are two related but different issues raised by our analyses: first, whether a minimalist survey household definition represents living arrangements well, and is an appropriate unit for measuring poverty; and second, that of closed and open households. Although survey household definitions represent closed households quite well, with the exception of those who are polygamous or with multiple cooking pots, these definitions will rarely be an adequate unit for analysing poverty levels and determinants for open households. This is because open households have fluid membership and ground their approaches to mitigating poverty through a combination of immediate and longer-term strategies which often involve developing and maintaining a ‘wealth in people’ approach which builds on and consolidates wide networks of obligations and support. They draw and receive not only monetary support but also social and political capabilities from beyond the survey household.

Both these issues have implications for household size as both a dependent and independent variable in analyses. Survey household definitions can underestimate household size if a household is understood to be the local economic production and support unit. Cross-sectional survey household definitions also make assumptions about the fixed nature of household size that are untenable in the case of open households, or from the perspective of individuals with both obligations to and benefits from two or more households. Contradictory findings in poverty research may be a consequence of how the survey household is defined and thus how data are collected and configured. We suggest that some analytic findings might be implausible – for example, that larger households are poorer – and emerge simply as a function of the bounded approach to household definitions.

Cross-sectional data collection remains the most practical and cost-efficient way of trying to understand the nature and determinants of poverty, yet the household in such surveys is a snapshot of the stock of people, their attributes and resources, with flows in and out of this stock at various temporal and spatial scales inevitably only partially captured and also subject to respondents’ interpretations of questions (Guyer, 2004). Using a minimalist definition of household where individuals can be attributed to one and one only contributes to further analytical misrepresentations.

Closed households seem to take three forms which (excepting those with multiple hearths) are all likely to be well represented in cross-sectional surveys, both in terms of members and the delimitation of assets upon which they depend. Closed households, with no kin to call upon through bad luck or previous poor management of developing links and obligations, have been observed to struggle to emerge from poverty because of their limited social networks (Ellis & Freeman, 2004; Hargreaves et al., 2007; Hulme, 2004; Little et al., 2006; Peters, 2006; Whitehead, 2006). Others may not seek help because of pride or shame, conflict or tension. Equally, there may be successful households who do not support less fortunate kin because they want to invest their resources into their own children in order to maximise further success; these may also be more likely to control fertility.

Open households are poorly represented by survey data and, because their openness is integrally related to poverty and poverty avoidance, household poverty statistics are based on data which do not and cannot represent the nature and extent of poverty and the creative ways in which people address it. For open households ‘wealth in people’ remains a powerful social value; supporting vulnerable kin is

an obligation which may bring potential future benefits; strong social networks with multiple ties of obligation and support offer good insurance against unknown future perils and the predictable problems of old age and potential incapacity. Open and closed households were found in all contexts in both countries.

How can data be collected about these extra-household links and flows in a cross-sectional household survey whilst retaining coherent and manageable data collection tools? A first step requires a rethinking about who is ex/included in the household and types of household membership. Any such questions will themselves bring potentially arbitrary decisions about, for example, a timeframe within which to ask questions about co-residence/dual-residence and receipt/sending of resources to people beyond the co-residential household. One relatively straightforward way to improve survey household data is through improved relationship data collection. Most large-scale surveys record relationships to the household head, thus assuming that individuals are part of that household through their relationship with the head – shown by many of our case studies to be incorrect. By replacing this relatively arbitrary description of household structure with a household relationship grid (where the relationship – whether kin or not – of each person to every other household member is recorded), data collection is likely to improve who is recorded. This may be unfeasible in contexts with very large households, in which case an approach which focuses on identifying smaller family nuclei within large households, prioritising relationships between married couples and parents and children is practically easy, as done in the 1976 Senegal census (BNR, 1976). This approach allows a much better understanding of small subgroups within large households, and does not relate everyone to a household head but to their closest support and facilitates more detailed probes about potentially omitted persons. In the fieldwork reported here, it identified a number of ‘forgotten’ household members.

A further advance would be to record the type of household membership and evidence of membership of other households. Such suggestions, whilst straightforward, would require a fundamental shift in the design and execution of internationally standardised household surveys, including the training and support of survey interviewers (Randall, Coast, Compaore, & Antoine, 2013). Designing longitudinal data collection of multiple household membership in South Africa (Hosegood & Timaeus, 2006) was achieved through discussion by the fieldworker with the respondents in order to identify whether an individual was a *full member* (considered by the household and themselves to be a member) or an *affiliated member* (not considered to be a member of the household but to reside with it and be involved intimately with it). Such types of questions could be included in survey instruments in order to identify meaningful categories of household membership. Data collected as outlined above would allow different configurations and degrees of openness to be analysed, ranging from households with a single person with multiple household membership to those with many. Further sophistications (recording patterns of residence) could be added, but would add significantly to costs and complexity.

Much of the debate about how to study and measure poverty, its influences and its outcomes is located in contrasting epistemological and disciplinary traditions that, on the surface, have little in common (for example, economics vs anthropology [Guyer, 2004]). Such contrasting disciplinary perspectives, and languages, can make it difficult to open up conversations about the ways in which survey data can (and should) contribute to understanding poverty and its trajectories. We suggest that it is better to explicitly acknowledge the consequences of methodological assumptions, rather than to ignore the issue that people and the links between them are an integral part of coping with poverty, uncertainty and insecurity in modern rural and urban Africa.

There are two ways forward from this research. It is probably unrealistic to expect large international surveys like the DHS to change their definitions and ways of recording households. However, it is perfectly reasonable to expect analysts of such data to articulate much more clearly in their analyses and publications the limitations of the definitions used in data collection and to reflect on the implications of these limitations – and in particular the validity of their analyses for different parts of the population. More triangulation with work produced by other disciplines on study populations would be a step forward, as would a frank reflection on the limitations and biases of specific approaches.



Surveys that are not constrained by being part of international comparative series could experiment with different approaches to recording household membership and wider definitions of household, as outlined above. This would allow a differentiation of closed and open households and an exploration of the implications of different degrees of openness via the economic measures being used. It is unfortunate that the very heterogeneity of openness and difficulties in identifying and collecting data on the myriad manifestations, time frames and transactions mean that quantitative data that truly reflect these diverse strategies for confronting and managing poverty are probably unachievable – and we may have to accept that some things are real and important but ultimately unmeasurable.

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## Notes

1. Anonymised transcripts of the household grids have been deposited in the ESRC data archive and can be found at <http://reshare.ukdataservice.ac.uk/> Tanzanian data: record id: 850668 and Burkinabe data: record id: 850730.
2. See <http://www.householdsurvey.info> for details of methodology.
3. As described in [http://www.measuredhs.com/pubs/pdf/DHSM1/DHS6\\_Interviewer\\_Manual\\_29May2012.doc](http://www.measuredhs.com/pubs/pdf/DHSM1/DHS6_Interviewer_Manual_29May2012.doc).

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