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## Assets and domestic units: methodological challenges for longitudinal studies of poverty dynamics

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### ABSTRACT

Tracking change in assets access and ownership in longitudinal research is difficult. Assets are rarely assigned to individuals. Their benefit and management are spread across domestic units which morph over time. We review the challenges of using assets to understand poverty dynamics, and tracking the domestic units that own and manage assets. Using case studies from longitudinal research we demonstrate that assets can afford useful insights into important change.

### KEYWORDS

Assets; domestic unit; longitudinal studies; poverty dynamics; Tanzania

## Introduction

Reading *The Village that Vanished* was a strange experience. The book, based on three years of research by Vesa-Matti Loiske, describes the village of Gitting, in central Tanzania, in the early 1990s. Loiske found high levels of destitution (32% of families). A further 27% of families were poor, living in inadequate houses, with few assets, no livestock and dependent on daily labour. The reader, Dan Brockington, was studying the book 20 years after Loiske's work, while living in the village of Sagong (close to Gitting). He was perplexed because he could not recognise such high levels of poverty in his recent survey work and the previous 13 years of visits and nor could his in-laws, all lifelong Sagong residents.

Brockington contacted Loiske to discuss his confusion, leading to a series of visits to Gitting in 2013 and re-visits of the families in Loiske's original survey. That research has shown that many of these once poor families were still present in a recognisable form, and they appeared to be richer due to better farming technology (ploughs, more oxen and improved crop breeds), higher crop prices and more equal social relations (Brockington et al. 2018).

At first sight this story of transformation appears easy to tell. Changes to farming activity have made people richer and they have invested in their homes, farms and businesses. But it is not that simple. Embedded in any claim about changing prosperity

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in Gitting are other important claims about how prosperity should be measured and the social units which experience that prosperity.

Many of the changes in wealth, as described by the villagers who experienced them, are best captured by exploring changes to *assets*. As we describe in the companion papers in this issue, and have reported elsewhere, assets are important in local definitions of wealth (Brockington et al. 2018; Östberg et al. 2018; Howland, Noe, and Brockington 2019; Brockington 2019b). Yet, as we have argued in these same papers, investment in assets can be poorly captured by standard measures of poverty such as poverty lines built on household consumption data. Studying assets therefore is useful as it complements other measures of prosperity and poverty, as well as providing insights into emic definitions of wealth and well-being.

Inseparable from any investigation of assets is the appropriate social unit of analysis required to understand change in them. Many of the assets described here (land, houses, livestock) are effectively owned and managed by social units larger than individuals. Their benefits are experienced collectively (if rarely equally). They are not, therefore, a good measure of change in individual fortunes. Any measure of wealth and poverty requires the right analytical social unit to track change. In the case of assets this will require reference to the families, households, domestic units or domestic groups who collectively own and manage these assets. We will talk about these units as ‘domestic units’ from hereon.

Research involving domestic units is difficult. It is well established, but inadequately recognised, that domestic units contain inequalities, power struggles and differences between intersections of gender and age (*inter alia*). These can be fundamental to understanding the nature and reproduction of poverty and prosperity. This issue is compounded in longitudinal research because domestic units shift. Their membership, location, activities and both internal and external power relations can change substantially and rapidly.

In this paper we explore the conceptual and practical challenges that can arise when trying to use assets, and therefore domestic units, in research which explores change in wealth and poverty over time. We argue that the methodological challenges of attempting this are significant. But we also contend that it is important to try to explore the socially embedded dynamics of assets. We illustrate this argument with research from Tanzania, as well as findings from other longitudinal studies.

We proceed as follows. First, we explain why assets matter for longitudinal studies of prosperity and poverty. Then we consider the complications of exploring assets and wealth change over time. Next we turn to the problems of working with domestic units over time. Having considered these issues we then summarise insights from a collection of different longitudinal studies in Tanzania, setting them into the context of the broader genre of longitudinal research. We conclude by discussing the insights, and potential pitfalls of this approach.

## **What are assets and why do they matter?**

The definition of assets varies. The most restricted definition refers to things which are owned, bought, saved and disposed of – land, livestock, houses and domestic goods. But the term can be used more liberally (Sahn and Stifel 2000; Booyen, Servaas van der Berg, and von Maltitz 2008; Young 2012). Barrett and colleagues recently defined assets

broadly ... as the state/stock variables used to generate income, including future income against which one might borrow. This includes both public and private goods and encompasses financial, human, natural, and social capital. (2016, 5)

These include aspects of prosperity such as levels of education, health, or more hard-to-measure notions of social connections or happiness. Johnston and Abreu (2016) observed that the term 'assets' can be used in a way which makes it synonymous with 'sustainable livelihoods' (Scoones 1998) or 'capabilities' (Sen 1999).<sup>1</sup> Ellis (2000, 296) explicitly equates assets to the five forms of capital outlined in the sustainable livelihoods framework. Bebbington treats assets and capitals synonymously:

assets - or what I call capitals in this framework - are not simply *resources* that people use in building livelihoods: they are assets that give them the *capability* to be and to act. (199: 2022 emphasis in the original)

Even when broadly defined, assets are useful for exploring poverty dynamics because they allow researchers to distinguish between different sorts of income poverty, according to the asset profiles that underlie them (Barrett, Carter, and Little 2006; Carter and Barrett 2006). Those without assets are structurally poor and endure persistent poverty (Naschold 2012). Assets are also more easily surveyed than income (Johnston and Abreu 2016).

Assets can be divided into 'productive assets' which produce food or income (land or livestock), and 'non-productive assets' (phones, televisions and fridges) used primarily for consumption. But the productive and non-productive distinction can break down when non-productive assets also generate income. Fridges can store sodas in informal shops. Televisions attract customers to bars. Use of phones is sold. A home with electricity will charge for charging phones. Likewise farmland can be unused and oxen rested; productive assets are not always productive.

Asset dynamics can provide a number of insights into poverty and prosperity. One of the most important is that assets are fundamental to the definitions of poverty and wealth that are used by poor people (cf. Narayan 2000). Group discussions in Tanzanian villages about wealth tend to focus on the quality of houses, amount of land farmed, size of herds and the abilities and freedoms that derive from owning these things, rather than income *per se* (Howland, Noe, and Brockington 2019). Similarly poverty is defined, in part, by the lack of access to important assets. Barrett and colleagues observe that meagre asset bases yielding poor income streams can provide the conditions that promote behaviour that reinforces poverty (Barrett, Garg, and McBride 2016). Adato and colleagues have shown that poor asset bases and weak social capital limit economic mobility for the South African poor (Adato, Carter, and May 2006; Adato, Lund, and Mhlongo 2007).

The salience of assets in local meanings of wealth and poverty is underlined by the centrality of assets in understanding longitudinal poverty dynamics (Carter and Barrett 2006; Naschold 2012). When people experience better fortune they will often invest in assets rather than day-to-day expenditure (Scott 2010). Sustained extra income is not necessarily spent on frequent meat or bottled soda. Rather it is invested in education, sewing

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<sup>1</sup>We are mainly concerned in this paper with tangible assets that can be bought, used and sold because we are interested in the social units that are engaged in the processes of acquiring and distributing them. This means that we will use a more restrictive definition of assets.

machines, livestock, a better home and so on. Changing assets can be a more sensitive measure to reductions in poverty than, for example, changes to diet. Liverpool-Tasie and Winter-Nelson found from panel data in Ethiopia that asset-based measures of wealth were much better at predicting future expenditure and asset portfolios than expenditure-based measures of wealth (Liverpool-Tasie and Winter-Nelson 2011). Carter and Lybbert (2012), exploring panel data from Burkina Faso in the mid-1980s, found two different responses to weather shocks with respect to assets that neatly capture the significance and role of assets in poverty dynamics. They observed that households who were poor with respect to their productive assets (herd sizes of less than 15.5 Tropical Livestock Units – TLU) conserved their assets, and experienced declines in every-day consumption due to weather shocks. These they call ‘asset smoothers’. Conversely those who were productive asset rich (more than 24.1 TLU) were able to offset consumption declines with herd sales, and readily did so (these were consumption smoothers). Productive assets therefore are a crucial means of becoming wealthy and people save in order to invest in them.

Sale of assets can also be important signs of stress and immiseration. Assets, particularly productive assets, are usually the things which poorer people experiencing immiseration hold onto for the longest (De Waal 1989). Better to go hungry than sell the cow that could sustain you when the rains return (Behnke and Scoones 1993). The sale of (important) productive assets therefore is a good indicator that things have got really bad, and might be about to get worse. Or in Chayanov’s chilling formulation, the best adapted peasant farmer ‘knows how to starve’ (1991 [1927], 40).

### **Assets and poverty dynamics over time**

Assets are clearly important for understanding poverty dynamics. But their contribution is probably best described as a necessary complication, rather than a welcome clarification. Assets are central to any robust understanding of wealth and poverty, but how to capture that relationship and its changes over time is fraught with difficulty.

Assets are commonly used to construct asset indices and divide surveyed individuals or domestic units into groups. But asset indices present two challenges to understanding poverty dynamics. First, while groups in an index can be used to examine inequality, and one domestic unit’s wealth relative to another, it is not easy to compare indices over time. The asset base used to build two different indices, for the same place but at different times, can change dramatically, and will not be captured by comparison of groups.

Second, as Johnston and Abreu demonstrate (2016), and as we discuss in a companion paper, asset indices are assumed to reflect underlying wealth (Howland, Noe, and Brockington 2019). However unless they are confined to relatively small areas and groups then they will also reflect variation in cultural preferences (which determine which assets people invest in) as well as broader infrastructural provision (such as the availability of electricity). Asset indices also have a well recognised urban bias (Howe et al. 2012). They can differentiate urban populations from rural populations but do not necessarily indicate the wealth of rural communities, which may prioritise different asset bundles, based on land, livestock and agricultural technology (Howland, Noe, and Brockington 2019).

If we do not use asset indices but instead the changing value of assets over time then other problems arise. The monetary value of assets is hard to capture because asset prices can vary considerably over various time scales both seasonally (livestock) and over years (land or motorcycles). Meaningful depreciation costs of houses, in contexts where houses are rarely bought or sold, and where each domestic unit constructs their own, are hard to calculate. This is particularly true of poorer people's houses, or houses built from naturally and locally available materials. The value of land, especially where markets are dominated by informal exchanges, can be hard to ascertain.

These problems become particularly pressing when exploring the changing value of assets over the long term. In high inflationary environments converting an asset into a cash value and then subjecting that number to modifications due to inflation and purchasing power parity changes, further adds to the difficulties in determining the worth of assets. Even without these financial considerations, exploring change in asset ownership and wealth is complicated because local interpretations of assets change over time (cf. Mushongah and Scoones 2012).

Finally, the relationship of assets with more common measurements of poverty is not straightforward. The relationship between income and assets is not linear (Harttgen, Klasen, and Vollmer 2013) and asset indices are not always a good proxy for consumption (Howe et al. 2009). A recent study found that income *increased* in all groups studied, but that over the same time period the value of asset portfolios owned by these groups *decreased* (De Weerd 2010; Beegle, De Weerd, and Dercon 2011). Assets share the flaws of income, consumption and other measures in that all are imperfect measures of welfare in different ways.

None of these challenges make historical comparisons using assets futile. Indeed, the very fact that asset dynamics can behave in different ways than measures is another reason to include them – for otherwise the changes they signify will be missed. However the point of this section is to establish that it is no easy, or straightforward task. Indeed, as Angus Deaton and Thomas Pogge have pointed out for poverty line data, these difficulties attend all international and diachronic measures of poverty (Deaton 2004; Pogge 2005). Attention to assets therefore adds to recognised methodological woes; it does not solve them. But the difficulties of examining assets are not an objection to examining them at all.

## Domestic units and poverty dynamics over time

If assets are important for understanding wealth and poverty dynamics then the social unit and scale of analysis used to assess also has to be considered carefully. The social consequences of access to a bundle of assets can only be understood in the context of the domestic units that own, access, use and share them (Meinzen-Dick et al. 2011; Johnson et al. 2016). Domestic units can be understood as the entities that come form around particular configurations of assets. Their origins, fission and fusion are signalled by transfers and changes in asset distribution. A classic example comes from pastoral societies where the transfer of livestock marks moments of engagement, marriage, childbirth and ties between families (Broch-Due 1990).

If the benefit streams and management costs of assets at any moment in time are controlled by domestic units then it follows that any sort of meaningful claim about changes

in wealth based on assets which are owned by domestic units hinges on the conceptualisation, composition and stability of domestic units. For example, consider the claim that a particular village has become richer because the asset ownership of its constituent domestic units has improved – they have more livestock, more televisions, more smartphones and bigger houses. This single claim has in fact two components: the obvious claim that asset portfolios are better, and, underlying it, the claim that domestic units used have been stable enough to merit comparison.

If there is no such stability then the comparison becomes less meaningful. For example, it might be that a village appears to have become richer because its poorer residents are no longer present. This could be the case if poorer domestic units have died, or their members redistributed, because of their poverty, or been forced out, or been displaced by some process of gentrification. Another possibility might be that the organisation of domestic production has changed in ways which have allowed new forms of asset accumulation. There may have been no noticeable immigration or emigration, but the domestic units that people live in have changed. In either case the value of comparing one site like this over time recedes if the units composing it have undergone such profound change.

We must attend to the stability of the social unit used because there is a history of domestic units which has seen the term, and particularly cognate terms like ‘household’, used carelessly and in ways which disguise important dynamics. Specifically, they conceal inequalities between age groups and gender that make generalisations across ‘households’ problematic at best. These problems have been recognised for many years (cf. Guyer 1981; Vandergeest and Rigg 2012), but still persist (Randall, Coast, and Leone 2011; Randall and Coast 2015). The problems, serious enough in cross-sectional surveys, are compounded in longitudinal studies which attempt to revisit communities, and in particular the same domestic units more than once, because the sorts of economic activity (of production and consumption) that creates domestic units, and the social life that animates them, will vary considerably over time. They may be, in short, not at all the same units that were originally visited.

Numerous dynamics have to be accounted for when attempting to use domestic units as a vehicle for understanding social change. Perhaps the most well known is the ‘developmental cycle’ of domestic groups (Goody 1958). This refers to the stages through which domestic units pass as they age and members are born and die, which, to an extent, determine their residence patterns, control over resources, and membership, as well as their asset base. Fortes used this concept to explain how households from the same ethnic group could appear to adopt different residence patterns, demonstrating that this was simply a function of the ‘time factor’ that had to be grasped if we are to understand how these societies reproduce themselves (Fortes 1958, 2). As Stenning showed so clearly, the developmental cycle of WoDaabe pastoralists in northern Nigeria was marked clearly by stages of betrothal, child birth and then the subsequent dispersal and dissolution of the domestic units (Stenning 1958). He also made clear that exigencies of climate, disease and the internal dynamics of units themselves would mean that units would coalesce and fissure over varying time-scales. For the purposes of understanding dynamics in prosperity and wealth with respect to assets, the developmental cycle is essential. It shows how younger units and older units can be expected to be poorer than mature units. Growing prosperity may simply be a sign of a maturing family, and immiseration a sign of senescence.

But the developmental cycle contains important assumptions that, if violated, may limit its usefulness (Murray 1987). First, it assumes sufficient social homogeneity to allow these generational processes to be observed. Second, that the developmental cycle can be distinguished from other forces for change which are occurring over similar time spans. Murray argued that, in southern African contexts in the 1980s, there was too much variety in the form and dynamics of domestic units to generalise in terms of cycles. What people did, and what happened to their residential groups and larger families, was bound up in changes to the migrant labour economy of South Africa, more than it was driven by internal dynamics.

These tensions illustrate that the domestic unit is both a product of cultural expression that reproduces a society, and an expression of the ways that individuals interact through relations of mutual dependence in order to ensure their own survival in a context of varying economic, environmental and political conditions. To use Hyden's language, we can see domestic units as part of an economy of affection which is characteristic of the peasant mode of production:

it denotes a network of support, communications and interaction among structurally defined groups connected by blood, kin, community or other affinities, for example, religion. It links together in a systematic fashion a variety of discrete economic and social units which in other regards may be autonomous. (Hyden 1983, 8)

Whilst the original analysis saw the economy of affection as offering resistance to the capitalist mode of production, Hyden (2015) finds the concept still useful to describe social relations and reciprocity in increasingly urban and capitalist Africa. Ferguson's recent work on notions of dependence in Southern Africa develops the idea that people seek relations of dependence on each other and on collective institutions (Ferguson 2013, 2015). Thus the domestic unit is buffeted and shaped by wider economic and political forces.

There are common forms of heterogeneity and instability in some societies that make it difficult to talk about developmental cycles, and indeed stymie the whole project of trying to explore change through the lens of domestic groups, particularly if those groups are seen as geographical nodes, rather than as networks of relationships. Membership of domestic units may be highly unstable because of divorce, fostering practices, or migration. Mathew Lockwood describes in detail the sorts of dynamism that occurred in rice growing districts of southern Tanzania that exemplify these difficulties:

The following is the history of the household in which I lived between December 1985 and September 1986. Before I moved in, the household consisted of a man in his forties, A, his wife, son from a previous marriage, aged about 15, and a daughter aged about 5. In December his wife left him and went to live with relatives in Zanzibar. The daughter went to stay with her grandmother in the village. At this point I moved in. January: a cousin of A's arrives, with her teenage daughter. They start preparing to farm rice in the valley. February: A's son argues with his father and leaves for relatives in Mkongo. A's daughter comes back to the house. April: The visiting cousin moves to a *dungu* [small hut in the fields used when cultivation work is heavy] in the rice fields. Her daughter, together with A's daughter, lives half there and half in the village. A's son returns for a short time and then leaves again. Late May/June: A's cousin and her daughter harvest rice and return to the village. They then go off to a village on the road to Dar es Salaam to visit her husband. Throughout this period, A would go to Dar es Salaam for a few days every month, where he acted as a rent collector for someone. The cousin's husband would also come at weekends from the other village, where he was a teacher. (Lockwood 1998, 143 fn 1.)



The relationships and dependencies which through which domestic units exist in the first place, are themselves dynamic. Units may experience varied pressures as they take on tasks of educating children and young adults or providing migratory labour, or taking on new livelihoods (agriculture, urban occupations). The domestic unit which was configured around one set of assets, livelihoods and their social relations may have transformed into a differently structured and configured unit under new forms of livelihood, opportunity and constraint, whilst continuing to serve key roles as a site of socialisation, care and support.

When exploring change involving domestic units the stability of the unit becomes key. 'Stability' here does not refer simply to residential stasis, but to social relations within domestic units. Whitehead's experience of working with 'households' in Northern Ghana provides a salutary example of the difficulties of comparing domestic units whose location remains the same, but whose developmental cycles have become so complex and convoluted that understanding how assets benefit different members cannot be understood without delving into the different components of the domestic unit. She describes, for example, (polygamously) married sons remaining with their (polygamously married) father in the same compound, and sometimes continuing to do so after their father had died. As a result:

Households could have several adults living in them and these adults included closely related married and single men, as well as polygamously married wives and the elderly widows of former male household members. This complex compound was an asset holding and cooperative work unit, although its physical, economic and social organization allowed for the possibility of overlapping circles of individual and collective responsibilities. (Whitehead 2006, 285)

The number of people living in these groups were large, with median household size being over 12 and ranging up to 73. Any assumption that domestic units remain sufficiently constant to compare over time is clearly ambitious in this case. Jane Guyer's longitudinal study of change around Ibadan eschewed domestic units altogether because 'people were mobile from one house to another, and their income earning, including farming, was individuated [so] at the pragmatic level of research method "the household" was unmanageable' (Guyer 1997, 25).

It is possible therefore, that a domestic unit surveyed for one purpose, or at one particular moment, may not be the best vehicle to understand the relationships and dependencies around which different sorts of domestic units come to exist at a later time. Alternatively there may be so little stability, or even recognisability, in the constitution of domestic units from one period to the next that using domestic units when bounded by geographical location as a lens through which to view change simply makes no sense at all. They are too ephemeral. This is likely to be the case in Mathew Lockwood's study site in Rufiji (Lockwood 1998). Housing structures might remain constant, but who lives in them, how they are related to each other, and, crucially, what assets bring which benefits to whom are too variable to be tracked over time.

Even if a once surveyed domestic unit ceases to exist, the relationships of dependence between individuals can still continue in ways largely invisible to the outsider using a survey tool. In 2004–2005, Mdee interviewed what she thought were several distinct households located around a public tap in the village of Uchira in Tanzania (Mdee

forthcoming). On marrying into one of those households, and over the course of several visits, she realised that these several households were in fact one domestic unit sharing blood relations, economic interests and assets. However, a survey of domestic units which assumed domestic units were constituted by housing units would have recorded two elderly female headed households, and two male headed households at different life stages. In fact, the 'unit' in the terms defined in this paper is constituted by relations of dependence, obligation and reciprocity that now extend across continents.

A variation of the scenario that Lockwood describes is that the amount of instability in social relations that make up domestic units varies within particular communities, and the degree of stability may be a contributing factor to the prosperity of the units. More stable units may experience more prosperity and derive more benefits from their assets. De Weerd's research on the Kagera panel study indicates as much (De Weerd 2010). He used quantitative data to predict which households (as defined by the Kagera study) were more likely to lose and gain assets over time, and then focus group research to explore which households were bucking the expected trends (gaining assets when losses would have been predicted, and vice versa). This produced a number of characteristics that were typically missed by econometric analyses, including the importance of good co-operative relations between spouses for prosperity. Conversely, divorce could be particularly disadvantageous to women, as could widowhood in polygamous marriages.

In instances such as these the dynamism of domestic units becomes a means by which the fortunes of their members can be understood. Such longitudinal data cannot be organised by rows of 'households' in a spreadsheet – with obvious implications for panel data. Rather it is the changes to the definition and functioning of domestic units, and individuals within them, which becomes the focus for analysis. The domestic units become the dependent variable.

Once again the dynamism of the domestic units which come to exist around bundles of assets does not make exploration of asset dynamics impossible. That very dynamism, potentially visible through assets, can make exploring change in assets ever more important. Our point therefore is not that domestic units should not be used, just that they should be used carefully and, if necessary, re-defined, should the stability required for meaningful comparison simply be inadequate.

## Exploring asset dynamics in longitudinal research

The broader value of following assets and the domestic units that manage them over time becomes clearer by putting them into the context of the larger, if somewhat niche, literature on longitudinal research. This work comprises, according to Vandergeest and Rigg (2012, 11), restudies (of particular places), revisits (returning to specific people and domestic units), and panels (in which cohorts are recruited for repeated revisits). Panels tend to have shorter time intervals between their visits, whereas decades can elapse between revisits and restudies.

Longitudinal studies are niche because they are hard to do.<sup>2</sup> Setting aside the methodological challenges, not many people are able to return to former study sites. It is

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<sup>2</sup>One indication of their rarity is that recent edited collections to this genre use the method in their title. Their authors know it will distinguish them. We are thinking of *The Changing Village in India, Insights from Longitudinal Research* (Himanshu,

hard enough undertaking one study, let alone finding the time and funding to return. Most of the best cases are from anthropology which is founded on deep commitments to particular places (Scoones 2015, 99).

Longitudinal studies, as Burawoy observed, have to cope with four types of change (Burawoy 2003). As well as the changes to internal dynamics and external pressures in the places studied that we have reported above, there are also changes to the researcher, and the theoretical contexts in which they are thinking. Vandergeest and Rigg neatly capture how in Asian and South East Asian research theoretical foci have shifted from self-contained 'villages' to 'communities' and to larger concerns of political economy.<sup>3</sup> Revisits conducted now have to cope with the theoretical frames of earlier village contained baseline surveys (Vandergeest and Rigg 2012). Similarly earlier approaches may have used concepts like 'household' in ways which hid important dynamics. As Vandergeest and Rigg put it 'there was [in our original studies] a tendency to expect individual voices to emerge, unbidden, from the household context' (15).

Done well longitudinal research can offer exceptional insights, as two rather different studies illustrate. Li's *Land's End* (2014) is based on nine visits (of up to several months) over a 19 year period to the same set of communities in Central Sulawesi. Her detailed and highly praised ethnography shows how exploitative capitalist relations and deprivation emerge from within, driven by endogenous desires for progress and change. Revisits to Palanpur, in India, every ten years for over fifty years (Bliss and Stern 1982; Lanjouw and Stern 1998; Himanshu, Lanjouw, and Stern 2018) has been lead by mainstream economists. These works are full of facts about income, assets, inequality, livelihoods and changing caste dynamics. The latest volume allows development economists the chance to reflect on how wrong theories were that had envisaged a shift of labour from rural economies to formal industrial employment. Contemporary livelihoods are much more precarious.<sup>4</sup>

However reviews of longitudinal studies highlight an unfortunate fact: they appear to be relatively rare in African research. White's summary contains works from Asia, South-East Asia and Central America; Wolford adds examples from South America (White 2014; Wolford 2016).<sup>5</sup> There are edited collections which compile longitudinal studies for India (Himanshu, Jha, and Rodgers 2016) and Southeast Asia (Rigg and Vandergeest 2012), but not Africa. The method is not as well used in African contexts as it could be.

There are obvious exceptions. Caplan's work in Mafia provides decades of insight built on strong persistent friendships, observation and conversation (Caplan 1997, 1992). Guyer's *An African Niche Economy* studied change in the hinterland of Ibadan, Nigeria (Guyer 1997), to understand how farmers pursued careers within the constraints and

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Jha, and Rodgers 2016) and *Revisiting Rural Places* (Rigg and Vandergeest 2012). The other marker of their rarity is that there are few other collections like these.

<sup>3</sup>The village frame is clearly visible in some longitudinal works – such as Epstein's (Epstein 1973; Epstein, Suryanarayana, and Thimmegowda 1998).

<sup>4</sup>This was Stern's response to Dan Brockington's question to him at a book launch of *How Lives Change*. Brockington asked him what was the biggest surprise of seven decades of study of one village. He replied that the surprise for him was learning how wrong Arthur Lewis' theories of development were. Lewis had posited a switch to formal manufacturing employment as labour is released from agriculture. In Palanpur, labour is being released, but to informal employment (Himanshu, Lanjouw, and Stern 2018, 447).

<sup>5</sup>White, reviewing Rigg and Vandergeest's edited collection (2012) invoked several other studies (Eder 2000; Pincus 1996; Redfield 1950; Castañeda 1995) (Epstein 1973; Epstein, Suryanarayana, and Thimmegowda 1998). Wolford, reviewing Li's work (2014) mentioned (Ortiz 1999; Stolcke 1988).

opportunities that unfolded in the face of growing urban demand but restrictive national economic change. Mortimore's seminal contribution to understanding adaptation to drought entailed a thirteen year study of a village in northern Nigeria (Mortimore 1989). The 'AFRINT' database has tracked four thousand farmers across nine countries with three visits since 2002 (Djurfeldt, Aryeetey, and Isinika 2011; Andersson-Djurfeldt, Dzanku, and Isinika 2018). Bill Kinsey and colleagues's long term study of re-settlement in Zimbabwe provides unique insights into the consequences of land reform that stretch back over four decades (Hooegeven and Kinsey 1999; Dekker and Kinsey 2011).

Other studies provide landscape scale studies of decades of changing prosperity. Tiffen, Mortimore's and Gichuki's *More People Less Erosion* (1994) adopted a landscape scale approach documenting a rise in investment in the landscape – at the same time missing the exclusions and disadvantage that this change visited upon poorer domestic units within that landscape (Murton 1999). Moore and Vaughan's remarkable re-study of Audrey Richards work in northern Zambia provides insights into 100 years of change across a large area, deliberately eschewing a village-based approach – partly because of the lack of precision that Richards herself provided on where she had worked (Moore and Vaughan 1994).

Shorter studies include Whitehead's work, which we have already reported (Whitehead 2006). Mushonagh and Scoones examined changed meanings of wealth in one Zimbabwean village between 1986–1987 and 2006–2007 (Mushongah and Scoones 2012). They found, *inter alia*, that in 2006–2007 that cash had become less important for determining wealth, and health more important. A host of assets (house quality, solar panels, mobile phones) that had become elements of a wealthy lifestyle in the later survey that were absent in the 1980s. The Kagera restudy (Tanzania) provides remarkably detailed information in a region for which there is otherwise little historical data (De Weerd 2010; Beegle, De Weerd, and Dercon 2011). There are also some useful panel datasets from Ethiopia (Dercon 2006; Dercon et al. 2009; Liverpool-Tasiea and Winter-Nelson 2011; Dercon, Hodinott, and Woldehanna 2012). These are characterised by their tendency to focus on the qualities of domestic units and individuals, and quantitative analyses of the same, and pay less attention to the politics of poverty creation and reduction (Harris 2009).

The value of following assets over time in longitudinal research is that it may provide a means of furnishing more insights in African contexts to places where there are few reliable data. This possibility is evident in summaries of some of the findings of a recently completed project which combined several longitudinal surveys in Tanzania.<sup>6</sup> This work, like Rigg and Vandergeest, entailed identifying researchers who had worked in the country in the 1980s to early 2000s and then organising a series of revisits.

In a companion paper to this issue we present one of the more detailed case studies, which describes change to the village of Mtowisa in southwest Tanzania where Dan Brockington lived in 1999–2000 (Brockington 2019b). This village had once been remote, but well-endowed with fertile soils and ample lands. Its residents considered themselves poor. Their houses were small and rudimentary, most cultivated only two acres, and few used ploughs. But by 2016 the village had transformed with a busy market centre,

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<sup>6</sup>The research on Gitting with which we began has triggered a broader research effort to develop more longitudinal case studies which examined change over time in different villages. See Brockington (2019a) for more details about this project.

motorbike taxis for hire, frequent bus services and solar-powered electricity. There was a mobile phone tower with good service. Within the village, housing quality had markedly improved.

During the return visit Dan Brockington was able to identify many of the people and domestic units from his previous survey. Most were better off as there had been substantial investment in assets (houses, oxen, pigs and ploughs) following a shift to commercially valuable crops. However, while individuals and domestic units who were present in 2000 appear to have prospered, the village population as a whole has not seen such a shift. This is because immigration into the village has brought more poorer domestic units (attracted by the cheap rental accommodation that sesame farmers built, and the labour it afforded). In addition the land frontier has closed making it harder for the youth of this village to acquire land and establish themselves.

Monique Borgerhoff-Mulder was based in Pimbwe, also in southwest Tanzania, a society which is characterised by high levels of instability in the form of migration and divorce (Borgerhoff-Mulder [forthcoming](#)). However she was able to circumvent these difficulties by dint of effort, visiting the same community seven times over a 15 year period and conducting an entire village census on each occasion. She shows clearly that there has been a significant improvement in different types of assets for most domestic units. She shows that improvement in assets is, in this instance, well correlated with other measures of well-being, such as farm productivity, decreased stress, education and health. She also shows that significant levels of poverty remain. Borgerhoff-Mulder notes that she cannot extrapolate her findings beyond this village – they demonstrate the importance of detailed case studies, not a broader rule.

Wilhelm Östberg's work in Dodoma began in the mid-1990s with one of the poorer and more remote communities in the country where farming had been characterised by extended fallows in plentiful woodland (Östberg 1995; Slegers and Östberg 2008; Östberg and Slegers 2010; Östberg et al. 2018). He too returned in 2016 to find villages transformed by their buildings, road connections and infrastructure. People were farming larger farms (growing sunflower as a cash crop) and the physical capital (especially watering points) of the village were much improved courtesy of the philanthropy (and business activity) of local entrepreneurs who had built public dams and used their tractors to transport and sell water. It was possible to trace individual domestic units and trace changes in asset bases, and explain those changes due to transformations in farming activity. Once again, assets only cover aspects of the dynamics that matter, as there has also been a transformation to the tree cover in the area which has substantially declined as farms have expanded. This was viewed locally to be associated with more precarious weather patterns.

Christine Noe's study of Meru villages provided a particularly interesting re-study because she built on one of the largest samples taken (over 600 domestic units from seven villages). Christine did not conduct the original work; that had been undertaken by Rolf Larsson who tragically died en route to conduct an early return visit in 2004. Christine, however, was born and bred in Meru in a village neighbouring Larson's study sites. Tracing changing assets through individual domestic units provided a useful lens for understanding changing forms and meanings of prosperity. This area has suffered from the collapse of the coffee economy, which had made it one of the most prosperous in the country (Larsson 2001), but this did not cause the poverty we had expected

(Howland, Brockington, and Noe [forthcoming](#)). The authors show that asset bases were reduced following population growth and the demise of coffee, but the meaning of both poverty and prosperity had changed. Wealth was no longer signified by coffee, but instead through accessing urban markets with small businesses and market gardening. Moreover women, on whose labour coffee had depended, but whose proceeds they had not controlled, welcomed the decline of the coffee economy. It freed their labour to focus on activities which they were better able to control. Understanding the change in assets that domestic units experienced required examining how that change was experienced by different individuals within those domestic units.

Ponte's work in Morogoro provides an interesting case because of the disputes which surrounded his first work there (Van Donge [1992](#); Ponte [2001](#); Ponte [2002](#); Van Donge [2002](#)). Van Donge had disputed the findings of Ponte's first survey (in the mid-1990s) because he felt Ponte painted too optimistic a picture and had failed to spot the agricultural involution which Van Donge foretold. The revisit in 2016 seemed to re-confirm Ponte's earlier arguments (Ponte and Brockington [forthcoming](#)). There are no signs of involution and decline as Van Donge had predicted. Instead, by tracing domestic units and their investment in assets Ponte can identify different trajectories of change, from decline (particularly associated with age and illness) to stasis, to substantial improvement (associated with agricultural investment). Substantial improvements in livelihoods in this area are also confirmed by other separate research by one of the present authors (Mdee et al. [2018](#)).

Finally, Anna Mdee's work in Uchira, Kilimanjaro, demonstrates that the general improvement in assets that we have documented in these sites is not a nation-wide phenomenon (Mdee [forthcoming](#)). It is patchily experienced – and in all these cases derives from different causes which unfolded at different times. In Uchira the growth in assets is generally absent. In this village there has been little improvement in agriculture, if anything changing climatic patterns (more erratic rainfall and a switch from bimodal to unimodal rainfall) has seen farming become less productive for most, while the wider economy of the village has not recovered from the collapse of cattle markets in the early 2000s. Instead, improvements in assets where they are seen tend to rely on migration and remittance through dispersed kin networks.

## Assets, progress and change

Ben White, in his review of *Revisting Rural Places* captures well the dangers of longitudinal research. They are certainly pleasurable and exciting for the researcher but

however promising, many re-studies are ultimately disappointing, showing us 'then it was like that, now it is like this' but unable to tell us much more about how and why things changed, or how these changes have been experienced. To be useful, they must go beyond the presentation of contrasting snapshots or time slices to the more demanding project of writing rural social history, focusing on the processes and mechanisms, rather than just the 'facts' and outcomes, of rural change. (White [2014](#), 635)

We do not dispute this point. But for longitudinal studies to be taken seriously, there must be room for some more empirically focussed approaches. As we observe in a companion paper (Brockington [2019b](#)), sometimes the facts are disputed, or obscured by techniques used to track change. We need to get a clear understanding of who gets what, or who

owns what, as well as what do they do with it (following Bernstein 2010) to understand the role of assets (and not just land ownership) in class dynamics. That means knowing what the 'what' is.

In our case studies the assets we examined are also particularly important for understanding situated class dynamics. For example, change in Gitting, the example with which we began, was locally explained by the decline in 'capitalism' (Swahili: *ubepare*). This was a reference to a broadening of the control over the means of production which had seen ploughs, oxen and eventually tractors spread from a restricted number of individuals who charged extortionate fees for their use. Greater equality in asset ownership, through local investment, resulted in a general rise in prosperity. As we will show in the companion paper (Brockington 2019b), it is precisely this form of investment that poverty line data omit.

But the opposite proved to be the case in Dodoma, where Östberg worked. Here wealthy entrepreneurs' tractors are new arrivals and essential to the larger farms that people are now working. Investment in shared water points has also reduced labour (particularly women's work) in collecting water. Greater inequality, in the form of relatively benevolent wealthy businessmen, has been key to raising productivity generally. The changes to the village have also seen a change in the meaning of daily labour from being solely a sign of penury and disadvantage to also signifying, in some circumstances, the ability to invest in particular projects.

However, while greater attention to assets can provide more sensitive insights into local level class dynamics it is also possible for attention to assets to be used in ways which obscure change. In tandem with this burgeoning interest in measuring assets lies a significant danger of the 'seduction of quantification' (Merry 2016), with the push to quantify, track and compare complex social phenomena.

Specifically there is a danger that one or two assets become proxies for 'prosperity'. For example, if the use of iron sheeting as a roofing material (which is helpfully visible to remote sensing) denotes progress (Jean et al. 2016; Watmough et al. 2019), then policy and resources might shift to fulfil this indicator. However, changes to the roofing of a dwelling can conceal all sorts of changes in the social lives of those living in it, and may not be linked to the 'prosperity' of the individuals living under it. Thus a single asset used as an indicator could conceal important dynamics, and become as a proxy for a normative concept (that iron sheeted roofing makes a better home).

This is a persistent tension in the quest for simple quantification in development metrics. For example, Sustainable Development Goal target 5a states a commitment to:

[u]ndertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.

The specific indicators of 5.a.1 are (a) the proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) the share of women among owners or rights-bearers of agricultural land, by type of tenure.

The choice of such asset-based indicators is not just a methodological problem, it has consequences in the policies that are adopted or promoted. For example, the formalisation of land titling measures, albeit crudely disaggregated by sex, pays little attention to the complex configurations of asset accumulation and use in the dynamic domestic

unit. But the apparent consensus around formal land titling drives policy change, with potentially deleterious consequences for the poorest (Maganga et al. 2016).

If assets can be incorporated into national measures of well-being (cf Brandolini, Magri, and Smeeding 2010), it is important to understand how such changes might be grounded in specific instances in the lived experiences of particular domestic units in different places. General measures of change in assets across regions or countries may be based in very different experiences of the distribution and enjoyment of those assets in particular places. There remains a strong role for locally based and well-grounded research that can contextualise such change.

## Conclusion

We began with an apparently straightforward account of simple changes, and improvements, in people's lives that are measurable and locally meaningful because they detail changes that matter, for which people strive. We have shown that this improvement actually entails two claims – that people are richer in terms of their assets, and that the social units holding these assets are sufficiently stable for that comparison to be warranted.

It seems, from these data and existing literature, increasingly important to take into consideration emic conceptualisations of domestic units and asset ownership. Without this, we are merely imposing an etic and often Eurocentric view, of what a 'household' should look like, on local settings where the reality might be quite different. Without some understanding of the complex cultural context of asset-owning units, we are attempting to make a comparison of something which is meaningless to people in its original context.

Tracking change over time requires sufficient constancy in the unit of measurement. And if the individuals, households, or communities we are interested in effectively disappear, then we cannot make statements about change over time at those scales, and we may not be able to compare different places for which data at particular scales no longer exist. Or, to make this point another way: there are some aspects of the world which are unknowable or unmeasurable because of the ways that they are constituted and because of the ways in which they change.

The challenge of research in development is to push the boundaries between what can be known, and what cannot. We believe that tracing assets through domestic units does indeed push the boundaries of our knowledge and understanding of social change, but only if the limitations of what we can learn from assets, and how we treat domestic units, are taken seriously. Attempts to use assets as proxies for change without due care will miss the social contexts that make assets meaningful in the first place. As the consequences of land loss and economic investment strategies are vigorously debated we encourage more researchers to use this sort of longitudinal approach to understand change in rural areas. However progress in understanding will only be achieved if researchers recognise the heterogeneity of change and the critical importance of local context and conditions, often at small scales.

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