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Community-led housing and urban livelihoods: measuring employment in low-income housing delivery

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Abstract

This paper explores a significant gap in knowledge about the employment impacts of community-led, low-income housing production, and the complex intersections between rights to housing, rights to work, and international attempts to define these rights, such as the ILO's 'decent work' agenda. We develop a four-way classification to understanding the livelihoods impact of housing interventions and how to measure it and, using evidence from construction workers and beneficiaries of the low-income housing developments supported by CLIFF (the Community Led Infrastructure Finance Facility) in Nairobi, this paper moves towards contextually-relevant definitions of 'a job'. We argue that existing employment multipliers used by evaluation agencies underestimate livelihood needs, and that the ILO's 'decent work' agenda should be contextually reviewed, particularly for informal economy workers with multiple livelihood streams, where sustainability may be more important than formalised work. We suggest that 'rights to housing' and 'rights to work' may conflict, particularly where *in-situ* upgrading is not feasible and developing housing in peri-urban locations is necessitated by the contextual realities of fast-growing cities.

Key words: community-led housing; urban livelihoods; low-income housing; employment; decent work; rights to work.

1. Introduction

Globally, in 2012, nearly a billion people, almost one third of residents in developing regions, lived in slums or informal settlements (UNDESA 2014). Informal and slum settlements are home to 70% of urban dwellers in sub-Saharan Africa (Majale 2008), and rapid urban growth and the concurrent urbanisation of poverty has outpaced the ability of governments to manage the provision of housing, basic infrastructure and employment (Thwala 2005). In Kenya, limited formal housing construction and a restricted supply of affordable land has led to a rise in rental accommodation in crowded, low-income, informal settlements (Gulyani & Talukdar 2010; KNBS 2013).

In this context of rapid urban growth, informal and low-income settlements are proliferating, with associated problems of lack of secure shelter, tenure and basic services (Rigon 2016). A major concern is the ability of organisations – public, private or NGOs – to deliver investment and scalable solutions to shelter and infrastructure provision (ILO and UNHCS 1997; Keivani & Werna 2001), particularly in the face of dismissive policy approaches to low-income settlements (Meredith and MacDonald 2017; Murray and Clapham 2015). In addition, urban population increase is outstripping growth in secure full-time employment, with estimates suggesting that worldwide around 600 million new jobs are needed over 15 years just to keep employment rates constant, with most of the demand coming from young job entrants in Asia and sub-Saharan Africa (WB 2013).

For many years, communities of the urban poor have campaigned to fight eviction and secure rights to shelter and basic services through slum upgrading and low-income housing delivery (Durand-Lasserve & Royston 2002). Yet, a critical problem remains lack of access to up-front finance for urban development. In 2000, an influential book by McLeod and Mullard argued the need to 'bridge the gap' by providing loans for poor communities to acquire land and build infrastructure for shelter improvements. The outcome was the Community Led Infrastructure Finance Facility (CLIFF)[1], established in 2002, supported by DFID and SIDA[2] and operated by the UK-based NGO Reall[3], designed to enable organisations of the urban poor to deliver adequate housing and basic services, through helping them promote innovative practice, influence policy and demonstrate scalable low-income housing solutions.

Reall's CLIFF programme operates in 15 countries, and has evolved from its initial focus on *in situ* slum upgrading, to support Reall's partners in managing a diversity of housing approaches, from

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[1] The CLIFF programme, which provides 'soft loans' to Reall partners, has in recent years been mainstreamed and the terminology is no longer used in Reall's general communications, but it is still the guiding principle of how Reall continues to work with partners.
[2] Department for International Development (DFID); Swedish International Development Co-operation Agency (SIDA)
[3] Reall (Real Equity for All) was formerly known as Homeless International.

home improvements to the development, delivery and financing of homeowner-led and larger scale sub-commercial housing developments. CLIFF helps communities link with partners to undertake development and fund settlement improvements, in order to close the gap between existing government and market housing provision and the needs of the urban poor (Reall 2015). Project reporting metrics have conventionally focussed on loan recovery and numbers of units built, but Reall wanted to explore the employment effects of CLIFF, and with CLIFF partner, NACHU (National Cooperative Housing Union of Kenya), commissioned pilot research on the livelihoods impact of the CLIFF programme. The research uncovered a major gap in knowledge about the employment impacts of community-led housing production, to which this paper contributes.

The paper has four sections. After the introduction, Section 2 sets out the research framework, discussing a rights-based approach to low-income community-led housing provision and the links to employment, the conceptualisation of a 'job' in low-income cities, and the need to frame this within 'decent work' agendas and local contexts. Section 3 explores the case study in Nairobi, and Section 4 analyses the theoretical and practice contribution of the pilot study.

2. Framing the research

2.1 Community-led approaches to development

Many community-led development initiatives are underpinned by a rights-based approach to development. The right to adequate housing is well-established in international human rights law as part of the right to an adequate standard of living, enshrined in the 1948 Universal Declaration of Human Rights (Art. 25, UN 1948), and the 1966 International Covenant on Economic, Social and Cultural Rights (Art. 11). The right contains both freedoms and entitlements, including protection against forced evictions, security of tenure, provision for services, and infrastructure, habitability, and cultural adequacy (UN-Habitat 2014). Less widely recognised is that human rights instruments also include a right to work, to free choice of work, just and favourable conditions at work, and safe and healthy working conditions (Art. 23, UN 1948; Art. 7, UN 1966). These rights can be considered as programmatic rights, imposing a general duty on states and enshrining political goals, but they are often not legal rights that can be enforced in a court of law (Watts and Fitzpatrick 2017).

Much of the world's affordable housing delivery is self-managed or assisted self-managed housing (Smets *et al.,* 2014) arising from grassroots initiatives to address the shortage of urban housing. Debates during the 1980s and 1990s led to a reconceptualisation of low-income housing policy, with the role of government shifting from 'provider' to 'enabler', e.g. through securing land, tenure, or basic services, based on partnerships between public, civic and private sectors, and active participation of inhabitants (Smets *et al.,* 2014). However, as access to available urban land with secure tenure becomes more difficult, communities are seeking new ways to access affordable housing.

Boonybancha et al. (2012: 444) argue that the question is "to identify how development interventions can nurture and develop the strength that already exists, letting people make change". Drawing on the experience of the first three years of the 'Asian Coalition for Community Action' (ACCA) programme, facilitated by the Asian Coalition for Housing Rights (ACHR) organisation, they argue that the collective support systems that poor people create provide social wealth, identifying eight elements of collectivity: information collection; problem definition; developing shared solutions; community organisation; finance; partnerships; rights claims and land tenure. Patel et al. (2012) describe how the community-led enumerations adopted by Shack/Slum Dwellers International (SDI) helps communities establish collective identity and advocate for their rights.

Clearly, community involvement in low-income housing delivery is complex and there are many different levels and strands of engagement (Chitekwe-Biti et al. 2014; Iglesias 2012; Mitlin 2007). For this paper, community-led housing is considered to be housing development processes shaped by organisations of the urban poor, through processes of collective decision-making on location and design, and collaborative approaches to financing, to deliver affordable housing with secure tenure to households otherwise unable to afford home ownership.

Thus, while community-led approaches have become an important component in the international drive to tackle low-income housing provision (Croese et al. 2016; UN Millennium Project 2005), the outcomes of participatory housing projects have typically examined the level of community participation in construction or maintaining housing or infrastructure (Gil et al. 2008; Klink 2006), or in securing tenure rights (Gulyani & Bassett 2007), rather than livelihood outcomes for residents and workers involved in construction.

Although shelter for the urban poor has long been recognised as a form of rights' claim (Manda 2007; Meredith & MacDonald 2017), rights to work and to a livelihood have only recently received recognition. During the last two decades, understandings of how poor people construct their livelihoods has advanced, for example through the sustainable livelihoods framework (SLF), which examines how the urban poor generate the income needed to survive, withstand shocks and accumulate assets to move out of deprivation (Rakodi with Lloyd-Jones 2002). The SLF recognises that a range of assets facilitate livelihoods: physical; financial; human; social and natural (the 'livelihoods pentagon'), but that people must negotiate shocks, stresses and a hostile policy environment (Brown & Smith 2016). Recent research suggests that urban livelihoods, especially in the informal economy, are far from marginal, but a rational response to global systems of exchange (Cross & Morales 2007, Brown 2017: 5). However, more understanding is needed of how individuals develop precarious livelihoods into more sustainable employment, and 'secure livelihoods'. What 'secure livelihoods' means contextually, either secure contractual arrangements, or continuous, 'regular' work, requires further interrogation.

In fast-growing cities, the majority of urban dwellers rely on the informal economy, often employing 60-80% of the workforce in cities of sub-Saharan Africa (Brown et al. 2014). Slum upgrading and low-income housing construction have significant potential for addressing the linked concerns of poor-quality housing and employment generation (Das 2015). Low-cost housing in the majority of African contexts is primarily built by small- to medium-sized contractors who use labour intensive methods and often employ informal workers (Gulyani & Bassett 2007; Klink 2006), although it is notable that in other contexts, such as several South American Nations, South African and China low cost housing can also be delivered by large contractors (Brendenoord et al. 2014; Li and Driant 2014). The construction industry has an important role in in providing employment for the urban poor, economic growth, improved environments and poverty alleviation (Williams 2007), but lack of investment in sustainable and good quality work has negative effects on the type of employment provided and the quality of housing built (Thwala 2005). Harnessing the employment potential of pro-poor development is thus important in wider urban transformations.

Therefore, whilst shelter and services have long been seen as a focus for community activism, with potential for scaling up models of low-income housing delivery, the livelihoods, employment and labour dimensions of this process remain underexplored – a gap which this paper seeks to address.

2.2 Conceptualising 'secure livelihoods'

The links between housing and employment (construction, supply-chain and post-construction effects from improved housing provision) for low-income households are widely recognised (Bakker et al. 2000; Das 2015; Jason 2008), but currently there are no robust measurements for the employment and livelihood benefits of low-income urban housing programmes, and the inability to generate reliable data remains a major barrier to understanding broader project impacts. Donors often refer to 'job creation' as a metric of project impact, but in contexts where people construct livelihoods from a range of income-earning activities the challenge is how to measure work created through urban low-income housing construction, and how the concept of 'a job' should be interpreted.

Various international organisations have attempted to define 'a job' by hours, days or weeks worked per year. DFID has defined employment as *'working for at least 20 hours/week for at least 26 weeks/year'* (Fowler and Markel 2014: 9), equivalent to 520 hours of work. The *Donor Committee for Enterprise Development* (DCED[4]) define 'a job' as 240 working days per year (Sen & Kessler 2015), which for a 6-day week equates to 40 weeks work. The ILO and UNHCS (1997) assumed that 6 months' work (24 weeks) constitutes 'one job'. These measures range from between 24 and 40 weeks' work a year equating to 'a job', but such measures based on time worked take no account of pay, conditions of work, or the remuneration needed in different urban contexts.

Furthermore, the concept of 'a job' may not be a useful way to understand the dynamic balancing of skills and activities required of those earning income within the informal economy, and construction workers and others often adopt a portfolio of activities to construct their livelihoods. What is important to many informal workers are the small-scale improvements in skills, employment continuity and working conditions that improve livelihoods. This paper therefore adopts the concept of 'secure livelihoods' to assess the employment impacts of low-income housing construction. Our evidence suggests that beneficiaries' livelihoods are a complex series of income and subsistence streams, which has important implications for the concept of 'a job', and for measuring livelihood change on moving to secure, owner-occupied dwellings.

[4] DCED is a forum for intergovernmental and funding agencies promoting development through private sector enterprise, initially convened by the World Bank and now member-based.

As a measure of working conditions, in 1999 the ILO adopted the concept of 'decent work' as a core agenda (ILO, 2013). Decent work is conceptualised through four key 'pillars': sustainable employment; social protection; social dialogue, and rights at work (Lawrence et al. 2008; ILO 2008b), as a multidimensional concept associated with a range of indicators, of which the most relevant to this paper include:

- *Living wage:* Wages greater than the country's minimum wage, and taking the worker and average dependents above the poverty line;
- *Net income change*: Additional wages earned compared to those earned previously;
- *Job displacement:* The extent to which new jobs displace other jobs;
- *Excessive working time:* Defined as over 48 hours per week (ILO 2008a);
- *Stability and security at work*: National estimates of the proportion working in 'precarious employment' e.g. casual, seasonal or temporary work (ILO 2017), and
- *Skill Creation:* transforming unskilled and medium-skilled jobs (Teal 2015).

Significantly, research on housing and employment has only recognised 'decent work' implicitly (Klink 2006), and there have been few attempts to establish decent work indicators at the local and individual scale (e.g. Bonnett et al. 2003), with most using national-level data (Gil et al. 2008). 'Decent work' thus remains an under-used concept (Lawrence et al. 2008) which could be due to the lack of clear pathways to application, the need to establish decent work indicators as outcomes of shelter-building (Klink 2006), and a clearer localised conceptualisation of a 'secure livelihood' (Burchell et al. 2014). The issue of measurement and data collection therefore remains critical.

2.3 Unpacking employment impacts

The process of housing construction and occupation is complex, covering a wide range of economic and livelihood activities. Construction is an important source of employment and a significant driver of urban economies, and for housing occupants, the home can be a source of income e.g. through urban agriculture or home-based work. The aim was therefore to undertake a pilot project of the employment impacts of CLIFF's community-led housing projects, during the lifetime of the partners' involvement, as an initial measure of employment in low-income housing delivery.

The pilot project thus developed the concepts of *direct* and *indirect employment* as a basis for measuring the employment impacts of low-income housing construction, using a four-way classification. This study focuses on measuring *direct employment* as an initial step.

Construction, manufacturing and supply:

- *Direct employment* includes on-site labour, including skilled and unskilled construction and manufacturing labour, specialist trades and on-site management.
- *Indirect employment* includes off-site supplies, materials manufacture and support, including: construction materials' manufacture, supply and transport; construction workers' transport, and property maintenance.

Occupation:

- *Direct employment* includes the beneficiaries' livelihood changes due to secure accommodation, including opportunities for home-based work.
- *Indirect employment* is the off-site service economy, such as retail, transport, schools and clinics which may develop or expand in response to new or improved settlements.

Direct employment in construction has received some research attention. Entry barriers to the construction industry can be low where labour is abundant (Thwala 2005), although other factors may also be important, such as the level of construction activity and the organisation and recruitment of labour. Employment generation through labour-intensive practices contributes to 'local economic development' by using local artisans, building materials, contractors, tools and finance (ILO 2006). Labour-intensive projects are most likely to benefit unskilled workers by providing employment and training (McCutcheon 2001), thus favouring the poor (Majale 2008). The *indirect employment* benefits may be considerable, but are less well documented, as the length, depth and complexity of the supply chain is a barrier to collecting data.

Direct employment impacts for beneficiaries include the advantages of secure tenure and improved housing (Sastrosasmita & Amin 1990). Secure housing can be an economic asset through renting or as collateral for credit (Das 2015), and improved shelter may enhance physical and mental health (Butala et al. 2010, Werna 1997). Low-cost housing occupants often need space for micro-enterprises (Werna 2000), and in Nairobi, for example, over 40% of microenterprises operate from low-income homes (Giulyani & Talukdar 2010). There are also disadvantages, e.g. households who move into new housing may have to leave their former work or face long commuting times (Majale 2008). Thus, whilst the impact of more secure accommodation on employment for most slum dwellers can be positive, impacts may be mixed and occur over different timescales. *Indirect employment* from occupation is generated as new developments attract services. These are difficult to measure, particularly where established services already exist or impacts may occur over a long time, or where there is overlap with direct employment impacts, for example if beneficiaries gain employment in local services.

Attempts to estimate the employment generated from low-income housing construction have created multipliers that vary significantly. Most have relied on the concept of a 'job' which we query above. Werna (2000) estimates that for every job created in construction, there will be one further job in trades such as building materials, transport and services. International estimates have suggested a ratio of 1:2 for direct to indirect jobs (ILO & UNHCS 1997). Estimates from South Africa state that each housing unit creates 5.62 direct jobs and 8 indirect jobs, whilst estimates from India suggest 1.5 direct and 8 indirect jobs per unit (Okonjo-Iweala 2014). Research from Eldoret, Kenya suggests between 1-5 skilled workers, and 4-10 unskilled workers employed directly per unit of low-cost housing (ILO & UNHCS 1997). Overall, margins of error increase as multipliers are applied, and little consideration is given to the specific national or local context when internationally derived multipliers are used, which this research seeks to address.

3. The Kenya/Nairobi case study

Working with technical staff at NACHU, the pilot study focussed on the creation of 'secure livelihoods' (*direct employment)* through community-led housing developments. *Indirect employment* will be the subject of a separate study.

As CLIFF's partner in Kenya, NACHU works throughout the country to increase access to decent, affordable shelter, through financing land purchase and housing construction (via CLIFF), and helping community savings groups form housing cooperatives. NACHU works mainly with community organisations registered as cooperative societies. Some groups are already registered as cooperatives when they contact NACHU, either as SACCOs (savings and credit cooperatives) or housing cooperatives. Others are informal groups, whom NACHU supports in establishing a cooperative, and developing their savings. Many come from areas of Nairobi, such as Kibera, where housing conditions are extremely poor. Cooperatives are defined by a 'common bond' which is part of their legal documentation and may determine the type of cooperative formed; e.g. people working in urban agriculture may decide to form a SACCO for bulk seed purchase, while those living in a slum may focus on housing. NACHU works with the cooperatives to develop their approach to collective savings and identify potential housing sites and house designs. NACHU's housing projects are tendered out to contractors who, where possible, employ members of the beneficiary cooperatives as construction labour[5]. Once construction is complete and communities take over a site, members buy their homes from NACHU over a period of 5-7 years through loan repayments organised through savings groups, providing access to finance that might otherwise be unaffordable.

A three-stage methodology for the research was used: a desk study of Reall and NACHU reports; pilot survey interviews with construction workers, project beneficiaries and local businesses, and key informant interviews with NACHU staff, contractors and site managers. Interviews were conducted across five new housing sites in Nairobi: two under construction (Malaa [100 units on one of two construction projects totalling 228 units], Kisaju [212 units]) and three completed schemes (Royal Housing Project [161 units recently completed]; Semba Moto [30 units completed of a proposed 124 units, occupied 2 years], and Mutindwa [68 units, occupied 5 years]). In total, 78 interviews were conducted, using separate surveys for construction workers (30 interviews), project beneficiaries (32 interviews) and local businesses (16 interviews). In addition, nine in-depth interviews were conducted with NACHU senior management, project management staff and construction company managers.

Housing demand in Nairobi is acute. Informal settlements emerged in Nairobi in the early 20th century as colonial policies discouraged public housing to restrict Africans moving to urban areas (Rigon 2016). Post-colonial housing policies of the late-1960s encouraged low-income self-help housing, and employment generation through local labour, but public housing provision had little impact on demand (Macoloo 1994). World Bank-funded sites-and-services schemes were criticised for failing to support income generation (Magutu 1997). Until the 1980s, centralised housing policies lacked consideration for rental housing, and since then housing supply has consistently fallen short of the needs of the urban poor (Rigon 2016), leading to declining rates of owner-occupation (85% of households rent) and rents increasing sharply (Huchzermeyer 2008).

[5] Note that it was not a contractual requirement for NACHU to offer site-based work to beneficiaries, however other Reall partners (e.g. in the Philippines) do require 'sweat equity' to be contributed, but as a cost-saving exercise for beneficiaries.

Efforts to improve slums in Nairobi throughout the 1980s and 1990s are widely seen as having failed due to the lack of engagement with communities, whilst recent large-scale redevelopment projects in Kibera, one of Nairobi's largest informal settlements, have also met with severe criticism (Huchzermeyer 2008). 'Top-down' participatory initiatives in Nairobi lacked local engagement, whilst 'bottom-up' community schemes lacked resources (Meredith and MacDonald 2017). Housing conditions, environment and sanitation have deteriorated for low-income residents in Nairobi (Gulyani & Talukdar 2010; K'Akumu 2006), which now has 60% of its population living in informal and slum settlements (Meredith & MacDonald 2017).

As a result, 1990s research in Nairobi found that an average household needed 5-7 years to accumulate enough capital to buy a plot and part-build a dwelling (Mwangi 1997). Renters in Kenya spend 47% of their income on rent and utilities, and high poverty levels (50% live below the poverty line), high costs of finance, land and building materials (KNBS 2013) makes access to formal housing increasingly distant. Nairobi slum dwellers are caught in a low-quality but high-cost housing trap (Gulyani & Talukdar 2008). Innovations are thus badly needed.

3.1 Working in construction

A core concern of this research was to establish contextual measures for 'secure livelihoods' for construction workers in Nairobi. The survey assessed the average working year of construction workers, to compare with the amount of work generated through a CLIFF site, alongside other aspects of working conditions. Workers surveyed were subdivided into unskilled (labourers), skilled (masons, including: bricklayers, roofers, plumbers etc.) and management and administration staff, and from survey data we estimated their total working time over the previous year (Table 1):

Table 1: Construction Workers Labour Time

Worker Type	Average Total Weeks Worked Per Year	Average Days Worked Per Year (of possible 312)	Average Weeks work provided by NACHU Sites
Unskilled	33	198	24 of 33
Skilled	34	204	30 of 34
Management	34	204	28 of 34

As discussed in Section 2.2, existing research suggesting that an average year's work varies between 24 and 40 weeks work a year. Our results fall mid-way in the range, with unskilled workers working an average of 33 weeks per year and skilled workers and managers working 34 weeks (Table 1), highlighting the importance of local data in determining what represents a 'secure livelihood' (measured by weeks-per-year). The contractors kept detailed site records that could be used to estimate the number of person-days worked on site. Site records from sample sites suggest that the number of *direct* person-days generated per housing unit was 196.

In terms of hours worked per year, the comparison with DFID and ILO figures is striking. Whilst DFID estimates suggest that 520 hours work per year is one 'job', our skilled and unskilled respondents worked an average eight-hour day, 1,584 hours per year for unskilled workers and 1,632 for skilled workers. Management and administration staff worked an 8.5-hour day, or 1,734 hours per year. Unskilled workers thus work almost three times longer, in terms of yearly hours, than DFID estimates. In terms of days worked per year, our figures are much closer to the DCED definition of a job as 240 working days per year (Sen & Kessler 2015), suggesting that construction workers may not be achieving a full 'year's work' and may therefore be struggling. It is clear therefore, that, despite long hours, unskilled workers worked less than skilled or managerial staff, and had more precarious employment.

3.2 Construction work and the Decent Work agenda

Unskilled workers were also disadvantaged in other ways – they had achieved a lower level of education, had more household dependents, received less training for their current employment, and had lower wages than their skilled counterparts (Table 2). They also had less secure contracts, as most were on weekly and short-term contracts and none had permanent contracts. They spent fewer weeks in employment compared to skilled and management workers, and had much less training (Table 2). Unskilled workers regarded their work as less stable than skilled or management workers, but only a few (21%) had 'secondary employment'. This contrasts with other survey groups who had a high level of secondary employment (e.g. project beneficiaries). Therefore, whilst one housing unit has potential to provide 196 of 198 days of an unskilled workers' average yearly work, this was not guaranteed from a single site given the precarity of contracts.

Table 2: Average Construction Worker Profiles

Worker Type	Wage (KSH/month)	Wage (US$/month)	Household dependents	% with higher education	Years training in this work	Working days idle in last year

Unskilled	16,000	155	3	7%	3	126
Skilled	25,000	240	2	17%	9	67
Management	55,000	530	3	50%	7	44

Source: interviews (note figures refer to self-reported income, which has low reliability)

The majority of unskilled workers (93%) believed that their income had increased over the last three years, and 64% stated that their current work with NACHU paid better than other comparable sites. NACHU has a good employment track-record, and the majority of respondents (92%) had received some informal on-site training, although none had received formal training. However, all felt that they had gained useful skills that would help them find work elsewhere, suggesting that *skills creation* was taking place for the least-skilled workers (Teal 2015). Project managers also reported that they supported the process of skills transfer and progression for good unskilled workers.

Mapping these findings onto the ILO 'decent work' agenda suggests the following:

- *Living wage:* average unskilled worker reported earning KSH16,000, and skilled workers KSH25,000, above Kenyan standards for the minimum wage, but for long working hours.
- *Job displacement:* 43% of unskilled workers stated they were unlikely to have found work elsewhere, and therefore unskilled jobs are unlikely to be displacing other jobs.
- Unskilled and skilled workers are close to working *excessive working time* of 48 hours per week (ILO 2008a). Managers and administrators exceed this, at 51 hours per week.
- *Stability and security* at work is of concern. Our data suggests that all the unskilled workers, 92% of skilled workers, and 40% of managers employed by contractors were 'precariously employed', although this is common for construction labour in Kenya.

These results for *direct employment* from construction have important implications for the realisation of 'secure livelihoods' linked to housing construction. For unskilled construction workers, work on NACHU sites has low entry-barriers, exceeds minimum wages and offers informal possibilities for training, and therefore pathways into skills creation. There is evidence that elements of 'decent work' occur informally, including training, and the majority had 'stable' work even though this was not contracted.

3.3 Livelihood change and secure accommodation – 'job creation' for project beneficiaries

Measuring employment or *direct 'job' creation for beneficiaries* who have moved into NACHU homes is complex, as accurate measurement would require longitudinal data on individual and household employment status before and after moving. Most beneficiaries interviewed had moved relatively recently, so employment changes may not have crystallised, but their ability to save in cooperatives under the NACHU scheme suggests a relatively regular income over time. Therefore, the crux of analysis becomes livelihood change, rather than simply job creation.

Interviews with the 31 beneficiaries, each representing one household and most reporting on their household members, established that the average working day was 10 hours, 6 days per week, and 48 weeks per year, consistent with the characteristics of informal work identified elsewhere (Brown et al. 2014). For these respondents therefore, 'full' employment constituted a total of 2,880 hours per year. Employment included small goods vending (food, timber, second-hand clothes), shop-keeping, construction work, and motorcycle taxis, and 10% worked at home, including cooking, selling food and providing childcare. Significantly, 90% of households undertook urban agriculture in their new, larger plots, and of these 29% kept livestock (mainly chickens or goats), 25% grew crops (spinach, maize, beans, sweet potatoes and bananas), and 46% did both. Previous research from Nairobi found that only 1% of slum resident's keep livestock or conduct farming (Gulyani & Talukdar 2010), suggesting that land for agriculture is an asset for wellbeing in the new dwellings.

On average, beneficiaries had been in their new property for two years; 81% reported a change in their household income since moving, with 42% increasing their household income and 39% reporting a decrease, with 19% remaining unchanged. Nine beneficiaries (29%) had changed occupation since moving, of whom four reported an increase in their individual income whilst five said it had decline (Table 3), although for one respondent household income increased whilst individual income declined. Whilst self-reported income is often unreliable, people may be more accurate in reporting income change.

Table 3: Employment Trajectories of Selected Beneficiaries Reporting Occupation Change

Gender	Current Occupation	Previous Occupation	Reason for Change	Individual income change	Household income change
Female	Snack Vendor	Food Vendor	Demand from construction workers for hot food, but more seasonal than Kibera. Son sends money from work in Qatar.	Decrease	Increase
Female	Unemployed	Veg Vendor	House belongs to son, but she lives in it alone.	Decrease	Decrease

Male	Labourer	Garbage Collection	Higher income as labourer.	Increase	Increase
Female	Urban Farmer	Hotel/Salon/ Vendor	Previous job relied on near-by construction site. When project finished, she lost income, but now farming pays more.	Increase	Increase
Male	Garbage Collection /Labourer	Labourer	Garbage collection through NACHU Project. Wife a photocopier and vendor. Income decreased due to transport costs to city.	Decrease	Decrease
Male	Matatu Driver	Dress-Making	Business is his wife's (he did marketing). Now no rent pressure so can do something else.	Increase	Increase
Female	Chicken Vendor	Veg Vendor	Space to raise chickens now so higher income.	Increase	Increase
Female	Unemployed	Shopkeeper (Vegetables)	Managed grocery store before moving. Husband operates motorcycle taxi but has less customers in this area. Now do urban farming for own consumption.	Decrease	Decrease
Female	Labourer	Fries Vendor	Not as much demand for vending (previous job) because lower population here. Husband is security guard.	Decrease	Decrease

The livelihoods impact of moving to new housing was therefore mixed, and it may take several years for the new neighbourhoods to consolidate and income-earning opportunities to emerge. Some beneficiaries found new opportunities relatively quickly. For example, in Semba Moto, established by a motorcycle taxis' cooperative and occupied for two years, two households had opened small 'tuck shops' in front of their homes. Near Malaa, one lady was cooking lunches for the construction workers. In ILO terms, the *net income change* was variable.

Beneficiaries have also seen changes in their expenditure. Most of the interviewees reported paying more per month in mortgage repayments on their new property (average: KSH8,700, US$84) than their previous rent (average: KSH6,100, US$60). 42% of beneficiaries had accessed credit or loans, 16% through NACHU. These loans supported businesses development, one loan was for a house extension, and four were for medical and school fees. Some had saved money because school fees, electricity, water, food and transport were cheaper in their new area. Others felt that the mortgage repayment, although higher than previous rental, was more predictable, commenting that they found financial planning much easier than when renting.

An important factor for respondents was the considerable commuting distance to their former work, as all NACHU sites were in peri-urban locations. Some had lost their previous work and were still looking for new employment. For others, commuting by public transport was an additional cost, as much as four times their previous expenses. In extreme cases these costs prevented a few from going to work, while others spent the week in Nairobi and came home at weekends. However, as one optimist said: '*there are less temptations than in the town, where it is easier to go out of budget'.*

Some respondents reported new social relationships after moving, for example '*I have met new friends who care for one another and are ready to help',* and they felt more secure because they knew everyone in the area, suggesting a strengthening of the community's common bond. Some suggested that their new location was better because it was less crowded than their former settlements. Others felt that they had more 'fresh air', noticing better health for themselves and their children, and felt that they could be 'at peace' or 'less stressed'. One respondent suggested that: '*there is a lot of playground for the children to play in. In Kibera the environment was not safe for the children to play*'. These findings are significant given that in other studies over 60% of Nairobi's slum residents felt unsafe inside their neighbourhood (Gulyani & Talukdar 2008). Several respondents were delighted by owning their home, one stating '*to own my own property… I never thought I would own my own home in a place like this*'. Only a few respondents found the area 'lonely', and did not meet people '*in the way we used to*'.

This evidence points to the complexity of measuring *direct employment* for project beneficiaries, partly because several positive changes associated with moving to more secure accommodation are not directly linked to income, such as improved quality of life, health and wellbeing. Multiple livelihoods and income streams of household members, many of which fluctuate in the short term, make it difficult to measure 'employment creation'. As with construction workers, it is striking that the hours beneficiaries worked per year are considerably greater than the international metrics discussed above.

3.3 Beneficiaries understanding of 'secure livelihoods'

Beneficiaries were also asked to comment on what it means to have a 'job or work' in Nairobi, in order to understand the concept of 'secure livelihoods'. For the majority, this was something that allowed you to '*earn a living… and generally meet your needs*' or '*anything that I can do to meet my needs like paying loans, paying bills. It is what I am doing as I am anticipating something better*', or '*where you do something in order to get your daily bread… as long as it is paying whether short or long term*'. Most respondents therefore had a wide definition of their work: 'earning a living' through whatever means necessary. They classified short-term, long-term, temporary, permanent, contracted and non-contracted work as part of their work. One mentioned that work should be '*sustainable*', even if it was not permanent or contracted.

A minority of respondents thought having a contract was important: '*there must be a contract',* and two respondents believed that 'a job' *'means someone is permanently employed, earns a monthly salary and has a contract for employment*'. Some suggested that: '*a job is long-term because I trained for it and it is helping me feed and educate my children*', but another respondent believed '*you don't need a contract as long as you are earning*'. For two respondents, *'having a business'* or '*being self-employed*' was also classed as having a job. Thus, respondents were mainly concerned about securing their livelihood, although they had different definitions of how this security should be achieved. This evidence reinforces the suggestion that an international and contract-based definition of 'a job' is not particularly useful as a concept in contexts where informal employment is the norm, and where 'sustainable' employment largely refers to continuous and stable work, rather than secure contractual arrangements.

4. Conclusions

Assessment of the effectiveness of low-income housing provision in meeting the needs of urban and poor households has predominantly focussed on the quality of shelter and basic services, but the livelihoods created by developments have often been overlooked. As this study has shown, the impacts are complex and far-reaching. The pilot study of the CLIFF programme demonstrated the significance of *direct employment* in the construction industry, and some of the monetary and non-monetary impacts for beneficiaries. Three key findings are evident.

First, community involvement in low-income housing delivery may include a broad range of activities. For CLIFF projects in Nairobi, the formation of cooperatives and establishing their savings mechanisms have been key elements in community-led housing delivery, with two important outcomes. First, the approach has enabled groups of low-income households from very poor backgrounds, who would not otherwise be eligible for loans, to access housing finance and achieve home ownership. Second, the approach has contributed to scaling up the housing delivery process, and demonstrated that, if adequately supported, low-income households have the capacity to save for their own housing. Whilst high land costs mean that communities may have to move to a new location, their core objective of owning a home is met.

Second, moving from the concept of ‘a job’ to a ‘secure livelihood’ enables a more nuanced understanding of the employment impacts of low-income housing delivery. This study has shown how construction work with a reliable CLIFF partner, although often informal for unskilled workers, is relatively steady work, with site-based working hours, and strong possibilities of skills transfer. These factors make it more stable than ‘precarious’, incorporating elements of the ‘decent work agenda’ as defined by the ILO (2017). For beneficiaries, the sustainability of their livelihoods may be more important than formalising contractual relations and regulating other aspects of work. Earning a sustainable income allowing them to ‘pay the bills’ was the most important aspect of a secure livelihood.

Third, our study has highlighted that new, robust forms of measurement are needed to understand the concept of a secure livelihood in developing cities where informal work is the norm. For construction workers, the number of days worked at a particular locality, working conditions including continuity of employment, and the contribution of this work to workers’ overall livelihood portfolios, should all be considered. For beneficiaries it is useful to consider the impacts on income, diversifying work, and longer-term work security. However, a longer-term study would be needed to examine how livelihoods settled down after several years of owning a new house. This could be undertaken through a beneficiaries’ survey before they moved into the property, and at intervals until the community’s housing loan was repaid over a period of 5-7 years.

For beneficiaries of NACHU programmes in Nairobi, gaining ‘rights to housing’ requires relocation to peri-urban locations, with complex consequences for livelihoods. Arguably, the low-quality, high-cost housing trap in Nairobi (Gulyani & Talukdar 2008) necessitates this. For several respondents, the intangible benefits of property ownership outweighed the social and economic difficulties of moving out of the city. Although many low-income urban dwellers have thrived on the benefits of participatory housing projects (Butala et al. 2010; Das 2015), our study suggests that their short-term livelihood trajectories are mixed, and may take time to improve. Thus, whilst low-income housing construction can enhance ‘secure livelihoods’, there is not a consistently positive relationship between securing rights to housing and rights to work, even when 'work' and ‘housing security’ are clear project outcomes. Some beneficiaries make short-term livelihood sacrifices to secure rights to housing, and likewise occupying secure housing does not immediately result in greater livelihood security for all.

Finally, the focus on the concept of ‘a job’ may be unhelpful in contexts where a livelihood consists of multiple, often informal, income-earning activities. Measures of ‘a job’ and employment creation should therefore be reframed around multiple household livelihood streams. We propose that measures be conceptualised as ‘livelihood contributions’ which contribute to greater ‘livelihood security’, rather than ‘job creation’. However, the highly contextualised nature of sustainable livelihood contributions, and any contextual measures must also be based on baseline and longitudinal data on employment, income and livelihood changes. Most critically, this research has highlighted the wider livelihood contributions of community-led housing development, which should not be ignored.

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