

# SLURC



## Urban Livelihoods in Freetown's Informal Settlements



**Braima Koroma**  
**Andrea Rigon**  
**Julian Walker**  
**Sudie Austina Sellu**

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# List of Acronyms

|           |  |
|-----------|--|
| AfDB      | Africa Development Bank  |
| BRAC      | Bangladesh Rural Advancement Committee                             |
| CBDMC     | Community Based Disaster Management Committee                      |
| CBO       | Community Based Organisation                                       |
| CMAC      | Chiefdom Mining Allocation Committee                               |
| CODOHSAPA | Centre for Dialogue on Human Settlement and Poverty Alleviation    |
| CPI       | City Prosperity Index  |
| DFID      | Department for International Development                           |
| DPU       | Development Planning Unit  |
| FCC       | Freetown City Council  |
| FEDURP-SL | Federation of Urban and Rural Poor – Sierra Leone                  |
| FGDs      | Focus Group Discussions  |
| GDI       | Gender Development Index   |
| GDP       | Gross Domestic Product   |
| GII       | Gender Inequality Index  |
| GNI       | Gross National Income  |
| GPP       | Gender Policy and Planning   |
| HDI       | Human Development Index  |
| ICATUS    | International Classification of Activities for Time-use Statistics |
| ILO       | International Labour Organisation                                  |
| LGA       | Local Government Act   |
| NGO       | Non-Governmental Organisation                                      |
| NPAA      | National Protected Area Authority                                  |
| ODA       | Official Development Aid   |
| OECD      | Organisation for Economic Cooperation and Development              |
| PGN       | Practical Gender Needs   |
| SGN       | Strategic Gender Needs   |
| SLA       | Sustainable Livelihood Analysis                                    |
| SLAAFU    | Sierra Leone Amalgamated Artisanal Fishermen Union                 |
| SLAFU     | Sierra Leone Artisanal Fishermen’s Union                           |
| SLURC     | Sierra Leone Urban Research Centre                                 |
| UN        | United Nations   |
| UNDP      | United Nation Development Programme                                |
| UNOCHA    | United Nations Office for Coordination of Humanitarian Assistance  |
| WASH      | Water Sanitation and Hygiene                                       |
| YMCA      | Young Men Christian Association                                    |

## Urban Livelihoods in Freetown's Informal Settlements



# 1.0 Introduction

In Sierra Leone, there is a dearth of information on urban livelihoods, and in particular on livelihoods in informal settlements. The Sierra Leone Urban Research Centre (SLURC) has studied urban livelihoods in four informal settlements—Cockle Bay, Dwarzarck, Moyiba and Portee/Rokupa—across Freetown to address this critical knowledge gap.

This research focuses on a number of typical livelihood sectors in which informal settlement residents participate to enhance the understanding of livelihood strategies that women and men in informal settlements employ. It aims to inform policy interventions that build the capabilities, and respond to the needs and priorities, of informal settlement dwellers, and to assist them and other urban actors to develop appropriate, effective and practical interventions to strengthen the livelihoods of the informal settlements residents and the performance of the city economy.

Specifically, the research will:

- Generate a better understanding of some key livelihood systems in Freetown’s informal settlements;
- Investigate and document the importance of different livelihoods for the wellbeing of women and men and for the city of Freetown more generally;
- Produce knowledge to inform livelihood strategy development and help stakeholders to strategize on how best to support urban livelihoods activities, particularly of informal settlement residents, including policy recommendations.

## 2.0 Background and Context

Located in West Africa, Sierra Leone has a total area of approximately 72,000 square kilometres and is bordered in the northwest by the Republic of Guinea and in the south and southeast by the Republic of Liberia. The country is divided into five regions: Northern Province, Southern Province, Eastern Province, North West Province and the Western Area. These regions are sub-divided into 16 districts which are further divided into 475 wards managed by district councillors, and 186 chiefdoms managed by paramount chiefs. The Western Area, which contains the national capital Freetown, is an exception and has no chiefdoms since there is no chieftaincy or customary legal system.

A country of 7 million people projected to exceed 8.5 million by 2030 due to declining mortality rates and rising birth rates, Sierra Leone is at the bottom of the Human Development Index (HDI) ranking. More than three quarters of the population lives in multi-dimensional poverty and a further 15 percent are at risk of falling below the poverty line (AfDB et al, 2017, p. 11). In the 2015 census, the urban Western Area, a good proxy for Freetown, had a population of just over 1 million people.

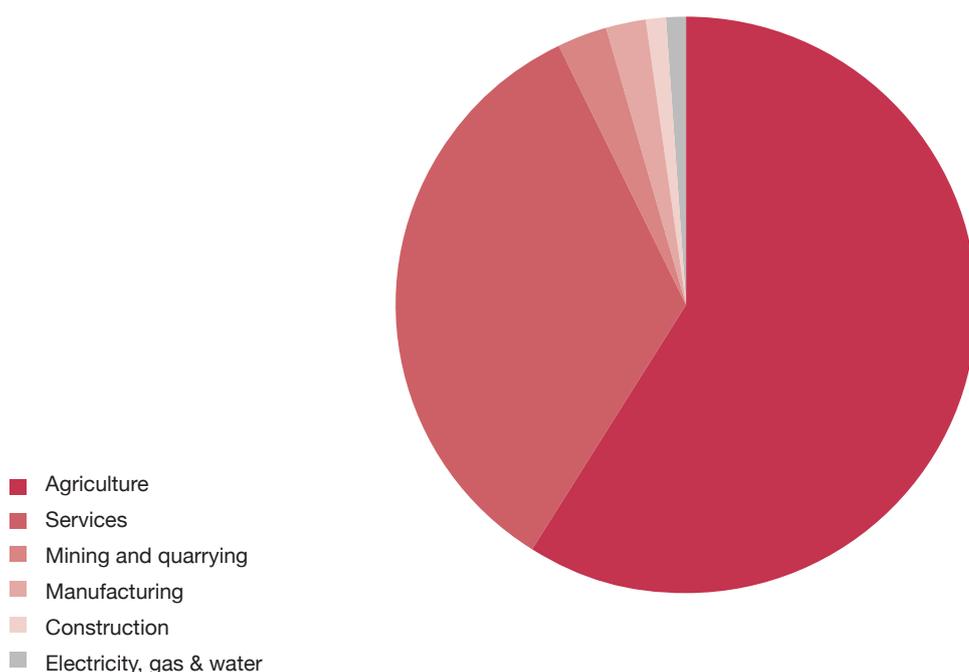


Figure 1: Economic Activities as a Percentage of GDP in 2016 (Source: local authorities data compiled by AfDB, 2017)

From 1991 to 2002, Sierra Leone endured a civil war that displaced about 2 million people and left the country with fragile institutions, poor infrastructure and a weak economy. In 2014, the Ebola epidemic interfered with the process of post-war recovery, killing about 4,000 people and taking a major toll on the economy. The rate of urbanisation is 1.3 times the rate of population growth, such that the population living in urban areas in 2015 is expected to increase by 10 percent by 2030, representing a jump of nearly 30 percent since 1990 (Zayid, Sichei and Korseh-Hindowa, 2016). International organisations express concern about this trend because the government of Sierra Leone is unable to promote sustainable urban settlements (ibid). The rapid urbanisation is not accompanied by a transformation in the structure of the economy, with almost no development of manufacturing. Figure 1 above provides a breakdown of Sierra Leone's economy by sector. During the Ebola outbreak, Official Development Aid (ODA) became a major component of the economy, exceeding one-fifth of the GNI or close to USD 1 billion in 2015.

Data from the most recent census in 2015 shows that the Western Area where Freetown is located is the region with the lowest employment rate (84.7% of the labour force). According to the same census, the self-employment sector is the largest employer in the country, followed by the public sector, the private sector, family members, NGOs/Embassy/International Organisations and others. Formal employment accounts for a tiny group; about 60 percent of the population, particularly women and youth, work in the informal sector. A 2017 analysis from the AfDB, OECD and UNDP acknowledges the importance of the informal economy and of the need for policies supporting it, including vocational training, small and micro enterprise development and access to credit (p. 9).

Sierra Leone's Agenda for Prosperity, the country's key development document, lays out the vision of becoming a middle-income country with a diversified economy based on agriculture, fisheries, manufacturing and tourism, with natural resources managed in order to drive private sector-led growth by 2035 (Sierra Leone Government, 2013). At the time being, it notes that economic growth has not reduced poverty, inequality or vulnerability to risks. In response, the document highlights the importance of the 2011 National Social Protection Policy to complement the effects of economic growth. The Ministry of Social Welfare, Gender and Children's Affairs, the National Ebola recovery strategy and the National Commission for Social Action are all involved in social protection programs as are a number of NGOs. While there have not been comprehensive studies on social protection, existing data suggests that only 0.5% of GDP is spent on social insurance and 3.5% on social assistance (AfDB et al, 2017). This implies that, despite being a priority in key policy documents, social protection is limited in practice with few programmes available vis-à-vis the number of citizens living in poverty. As a result, informal networks of social protection and mutual assistance play a critical role in the livelihoods strategies of most people.

Sierra Leone's economy is over-dependent upon the extraction of minerals, which are unsustainable and non-renewable assets. Moreover, economic policy assumes that minerals will attract sufficient foreign currency to enable economic development, resulting in minimal investments in agricultural commodities, industrial development and other sustainable investments. In 2006, mining accounted for over 90 percent of exports (European Commission, 2008, p. 8). A number of the value chains analysed in this project build upon natural assets which may not be sustainable in the long-term, but artisanal mining offers a potential lesson. Many artisanal miners work in areas where diamond deposits are depleted. Stone quarries, sand mines and other activities that are part of urban value chains provide a form of safety net, though the European Commission warns that once mineral deposits run dry, large groups of unemployed men may pose a significant danger if they are unable to secure other opportunities (European Commission, 2008, p.9). Stone quarrying in Freetown is becoming more difficult due to the depletion of the more accessible stones.

The manufacturing sector has more potential to contribute to the Freetown economy but only accounted for 1.9% of GDP in 2016, well below similar African countries. Manufacturing is characterised by informal small and medium enterprises (SMEs) using basic technology, creating few jobs and with weak linkages to agriculture and fisheries (AfDB et al, 2017, p. 4).

The services sector made up a third of the Sierra Leonean GDP in 2016. This is an important sector in Freetown where it includes trade and tourism; transport, storage and communication; finance, insurance and real estate; public administration and defence; and other services. Within the sector, the largest sub-sector is wholesale and retail, a key sector for urban informal employment. The economy is not very diversified and changing this is a key recommendation in the 2017 analysis of the economy carried out by AfDB, OECD and UNDP. This is especially the case for sectors with potential for growth and employment such as fisheries, tourism and manufacturing. Major challenges to economic development are poor infrastructure (particularly electricity), a low-skilled labour force and a regulatory environment that handicaps the private sector (European Commission, 2008).

Of particular relevance to this research project are development indicators around gender, which ranked Sierra Leone 181st out of 188 countries in 2014. The Gender Development Index (GDI) was 0.814 in 2014, meaning that women and girls achieve only 81.4% of HDI socio-economic indicators compared to their male counterparts. The Sierra Leone Gender Inequality Index (GII), which looks at reproductive health, empowerment and labour market participation, is 0.650, ranking it 145th out of 155 countries (European Commission, 2008 p. 9). More than 40 percent of all Sierra Leoneans are under the age of 15 years old, almost two-thirds are below age 25 (AfDB et al, 2017) and less than 4 percent are over 65. Despite child marriage being illegal, 44 percent of all marriages in the country involves children under the legal age of consent. Maternal mortality is amongst the highest in the world and 45 percent of all pregnancy-related deaths occur in adolescents (SSL and ICF, 2014). Sierra Leone's main urban centre, Freetown, has developed into three geographic areas: coastal settlements along rocky beaches of the Atlantic Ocean, sprawling inland settlements along the Sierra Leone River Estuary and settlements on steep hills that are rapidly encroaching into the vital forestland. The landscape is typically mountainous along a coastal line, which limits the spatial

expansion of the city, forcing low-income groups to settle mostly in remote areas. The city's size and location offers several strategic opportunities, including processing a number of commodities and exploiting its well-located harbour. Improving the skill level of the labour force is a key factor in achieving these developments.

Freetown has grown significantly due to internal displacement during the civil war and economic migration (World Bank, 2013). Most migrants have settled in informal settlements because of their proximity to work opportunities and because land and housing are too costly for people who are predominantly employed in small-scale informal businesses. Depending on definition and categorisation, Freetown has between 27 and 61 informal settlements, scattered along the coast and the hillsides. Some larger settlements, including Kroo Bay, Susan's Bay, Falcon Bridge and Moa Wharf along the coast, function as small towns with complex internal economies and their own markets, small industries, and wharfs.

Throughout Freetown's settlements, flooding, rock-falls, building collapse, and landslides are common, resulting in significant economic and other losses such as the destruction of property and infrastructure. Particularly in slums, the incidence of diseases and epidemics, especially those that are water-borne, is also high and diarrheal diseases from inadequate sanitation are a serious health burden. The proximity of industries to residential areas such as the Wellington Industrial Estate or the cold storage at Dwarzarck community is a cause for concern. Deforestation, overexploitation of the marine environment and pollution from land-based activities is not uncommon.

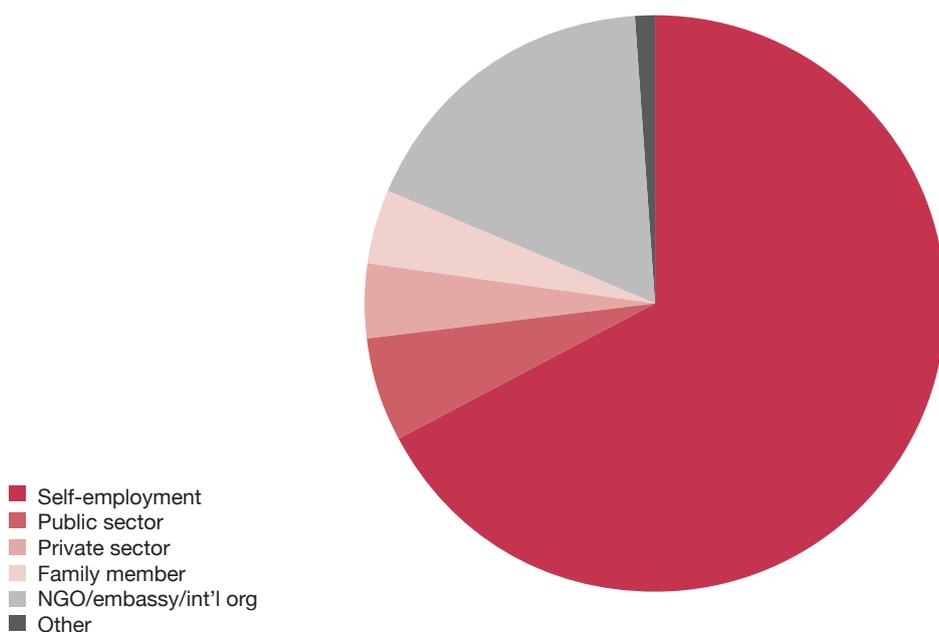


Figure 2: Distribution of Employment (Source: data from AfDB et al, 2017)

## 3.0 Theoretical Framing: Informal Settlements, Livelihoods and Gender

This study focuses on the livelihoods of residents of informal settlements to fill some of the information gaps discussed in the Introduction above. It seeks to disaggregate the ways that different groups of women and men participate in, and benefit from, these livelihood activities, as well as their impact on the wider settlements and city. Accordingly, our study draws on a number of theoretical perspectives and debates relating to informality, livelihoods, and gender. In particular, we draw on bodies of theory that:

- define the characteristics and boundaries of ‘informality’;
- engage with the study and characterization of livelihoods, and livelihood systems, and;
- aim to analyse social institutions which structure livelihood practices from a gender perspective

### 3.1 Informality

The focus of this study on informality encompasses both the distinction drawn between informal and formal settlements, and between informal and formal economic activities.

Definitions of slum and informal settlements are controversial. According to UN Habitat, slums refer to settlements characterized by at least one of the following features, used in the UN-Habitat definition (UN-Habitat 2007):

- durable housing which protects against extreme climate conditions;
- sufficient living space (not more than three people sharing a room);
- easy access to safe, sufficient and affordable water;
- access to adequate sanitation;
- security of tenure that prevents forced evictions.

In contrast informal settlements have been defined (UN, 1997) more narrowly as:

- areas where groups of housing units have been constructed on land that the occupants have no legal claim to, or occupy illegally;
- unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorized housing).

While we use both the terms slum and informal settlement in this paper we are aware that there is a contentious politics built around these terminologies. The term “slum” usually has derogatory connotations and thus its use can imply that a settlement needs replacement or can legitimise the eviction of its residents. However, sometimes it is a difficult term to avoid. First, some networks of informal neighbourhood organizations choose to identify themselves with a positive use of the term ‘slum’ with the political aims of neutralizing these negative connotations by re-appropriating the term, fostering slum dwellers as a collective identity, and appealing to international human rights legislation which refers to slum dwellers. One of the most successful of such networks is the National Slum Dwellers Federation in India (part of a wider federation which is also active in Freetown in the form of FEDURP). Second, the only global estimates for housing deficiencies, collected by the United Nations, are for what they term “slums”.

Thirdly, given that many housing developments of the middle classes and urban elites meet many of the criteria generally linked to settlement informality (e.g. unclear tenure, lack of conformity with local government planning norms, and location on unsuitable land) it may be important to distinguish between these informal middle- and high-income settlements, and 'slums' as informal settlements of the poor.

The 2014 Millennium Development Goals Indicator report of the United Nations Statistics Division (2015) estimated that three quarters of the total urban population in Sierra Leone live in areas classified as slums. However, other stakeholders working with the urban poor felt that the international UN-Habitat definition did not reflect the city's local realities because the socio-economic, environmental and cultural context of Sierra Leone is in many ways different from other countries used to coin such a definition. A working group led by SLURC worked on a local definition for Freetown, which found consensus amongst several key stakeholders. Based on this, the working group defined a slum in Freetown as an area in which:

- A significant proportion (over 60%) of houses have insecure tenure;
- The majority of houses are semi-permanent structures (where semi-permanent refers to homes built with materials including, but not limited to, cardboard and iron sheets aka 'pan body');
- Roads within the settlement are inaccessible for motor vehicles;
- Populations are highly vulnerable to risks including disaster and disease;
- The majority of residents are unemployed or are working in the informal sector – where the informal sector is defined as businesses that either are not registered to pay taxes (not including market dues), or employ fewer than six people;
- The settlement is a distinct group of over 40 structures, with a population exceeding 300. However, if a given settlement meets all the criteria except for this one, it can be defined as a 'slum pocket'.

Informal settlements/slums are, and have been, approached in quite different ways in terms of their treatment in city development strategies, and through the planning and governance of cities. At one extreme, historic approaches which equated development with a particular Western model of modernity (Escobar, 1995) often saw informal settlements as a sign of underdevelopment and responded to them through strategies of demolition and eviction. In many contexts, such approaches to urban development still persist and are arguably resurgent. These approaches view city development as processes of 'beautification' or urban regeneration, with aspirations towards the 'world class city' (Ghertner, 2011). This prioritises conformity with technical masterplans over the lived realities of many poor citizens. Such approaches typically still deal with slums/informal settlements through processes of eviction (Farha, 2011). Such evictions are often justified either on the basis of the need to clear land to make space for infrastructure development (with land occupied by informal settlements normally the easiest to clear and the cheapest to acquire), or more directly with the rationale of eliminating informal settlements as intrinsically unruly or unsafe spaces which are seen as a blight on city development (Bahn, 2009, 2016; Watson, 2009). It is also worth noting that while such rationales for the eviction of informal settlements are generally made on the basis of such 'public interest' arguments, actual underlying motivations for displacing informal settlements (which are often on central city land with high potential value) may also relate to private interests in profit through real estate speculation made possible by clearing land of informal residents (at times in collusion with the state) (Smith, 1996; Lees et al, 2016; Oliver-Smith 2010).

On the other hand are a range of approaches to informal settlements which focus on upgrading slums by improving the conditions and lives of people living in them, rather than by improving these spaces by removing slum dwellers from them (Boonyabancha, 2009; Burra, 2004; Payne and Majale 2004). Such in-situ approaches to informal settlement upgrading have encompassed a range of approaches linked to housing and settlement upgrading, including: special planning zones and dual building standards; state and civil society support to housing upgrading; enabling private housing markets to meet the needs of the poor, or; the incremental extension of basic infrastructure . In some contexts the right to remain in the context of settlement upgrading has even been established in legislation (for example Brazil's Statute of the City 2001).

## The Informal Economy

In terms of economic activities, rather than informal city spaces, the informal economy is broadly defined as *“the diversified set of economic activities, enterprises, jobs, and workers that are not regulated or protected by the state”* (ILO, 2002). The emphasis here is on the lack of regulation which may include aspects such as taxation, quality control of production, social protection systems for workers and health safety and environment issues. The ILO's definition of informal employment, as a key component of the informal economy, similarly focuses on employment which lacks social protection.

However, this broad definition throws up a number of problems. One of these is the extent to which a formal economy can be distinguished from an informal one. For example, economic activities may be regulated in some ways (e.g. taxation) but not in others (e.g. social protection of workers or quality control of output). Furthermore, even where economic activities are officially regulated by the state, this may not be applied in practice, drawing a distinction between formal regulation and de facto informality. In many contexts this de facto informality is accompanied by increasing informality of the de jure governance regimes. Linking these two processes Meagher notes in her analysis of informality in Africa:

*“Even states have become informalized as public officials govern in ways that contravene formal relations, and downsizing public sectors concede an increasing range of governance activities to community organizations”* (Meagher, 2007, p. 406).

Another blurring of the boundaries is in the institutional and spatial 'sites' of informal economic activities. On one hand, much informal employment now takes place in what are considered to be formal enterprises (Williams & Lansky, 2013). On the other hand, and of critical concern to our research, informal economic activities can be pervasive in formal areas of the city, while, equally, formal economic activities and employment may be based in informal settlements (e.g. official public employment of teachers or officials in slums).

In practice, therefore, the distinction between formal and informal is a continuum rather than a dichotomy. In African cities, for example, while informality is often the norm, urban value chains and services contain both formal and informal elements that are interdependent (Myers, 2010). On this

basis it is more helpful to understand that economic systems tend to have a range of interlinked nodes and processes characterised by different levels of formality and informality.

A second area of debate, rather than seeking to draw the boundaries between formality and informality, focuses on the desirability of strategies of formalisation as part of international economic and labour policy. Outcome 6 of the current ILO strategy is the '*Formalization of the informal economy*', with the outcome statement that '*Tripartite constituents are better equipped to facilitate transitions from the informal to the formal economy*'. In this view, if informal economic activities and employment are defined by their lack of regulation and social protection, formalisation would seem to be intrinsically desirable, as it would address the negative outcomes of lack of regulation, including unprotected labour conditions, generation of environmental hazards, unsafe or poor quality products, or failure to pay tax for public

However there are potentially negative impacts of some strategies of formalisation. On the one hand, the burdens of state regulation may disincentivise entrepreneurs and inhibit productivity (de Soto, 2000) thereby diminishing the livelihood opportunities of the poor. In a linked argument, but focusing on workers rather than entrepreneurs, Chen stresses that,

*'...it is important to ensure that formalization offers the benefits and protections that come with being formal and does not simply impose the cost of being formal'* (WIEGO/Chen, 2012, p. 15).

Furthermore even if it is agreed that processes of formalization are desirable, another question is the extent to which they are realistic – i.e. the extent to which is it possible to rapidly extend regulation to the informal sector in the context of pervasive informality (for example in countries such as Sierra Leone where the informal sector constitutes the majority of the economy and labour market) and, at the same time, limited state capacity for regulation (often in the context of increasing public sector fiscal austerity) and for the existing formal sector to absorb the labour force.

This does not mean that strategies of formalization are undesirable and unrealistic however. Instead, it points to the need for the formulation of strategies that are pragmatic and incremental and, in Chen's terms, extend the benefits as well as the costs of formality to low income workers and informal enterprises.

### **3.2 Livelihoods and market systems**

Given the argument above that it is more useful to approach formality and informality as characteristics of different elements in an interconnected system (rather than distinct economies), it is important to understand how economic relations have been understood as systems and how women and men negotiate these systems.

A number of analytical approaches exist to understand the economic systems in which poor women and men operate, such as Value Chain analysis, M4P/Making Markets Work for the Poor (DFID/ SDC, 2008) and Practical Action's Participatory Market Analysis.

In the field of international development, an influential approach to understanding economic systems and their impact on people's lives and well-being is the analysis of livelihoods. Livelihoods are defined as comprising "...people, their capabilities and their means of living, including food, income and assets", including both tangible and intangible assets (Chambers and Conway, 1995: ii). A key concern with livelihoods analysis is the extent to which livelihoods are sustainable, or the extent to which they can respond to shocks and stresses and meet the needs of future generations (Carney, 1999; Scoones, 1998). A Sustainable Livelihoods approach aims to understand how poor women and men and their households earn their living day to day, and how their environmental, social and institutional contexts impact on their and their households' well-being. A key element of livelihoods analysis is examining how 'capital assets' (natural, social, physical, financial and human) are used in livelihoods strategies, as well as how they may be built or depleted by livelihoods strategies or context-specific processes.

Initially, sustainable livelihoods analysis was mainly applied in rural areas, but urban livelihoods subsequently received considerable attention following recognition that significant portions of urban poor households in developing countries are also vulnerable in terms of their sustainable livelihood systems (Hossain 2005; Rouse and Ali, 2000). This is particularly true in cities in sub-Saharan countries where urban livelihoods are often insecure since employment and income generation opportunities are mainly confined to the informal sector of the economy.

The concept of livelihoods helps paint a picture of the ways in which people construct a living, putting women and men, and their agency, at the centre of analysis. At the same time it examines the context that poor women and men need to navigate. It aims to pinpoint and understand resources or capital (such as economic, social and symbolic resources) and activities and strategies that lead to the construction of household livelihoods, as well as the challenges which affect the sustainability of livelihoods in the face of economic troubles and severe household shocks (Carney, 2002, Scoones, 1998, Rakodi and Lloyds-Jones, 2002, Farrington et al., 2002). The framework therefore engages with the dynamism of livelihoods and the capacity of households to generate new strategies in response to needs and opportunities, and how these strategies are influenced by changes in vulnerabilities, structures and processes (Farrington et al., 2002). The sustainable livelihood framework also acknowledges that poverty is not permanent, stable or static (Meikle, Ramasut and Walker, 2001). Instead, poor urban people frequently move in and out of poverty as they react to opportunities, shocks and stresses (Moser, 1996; Chambers, 1992).

Overall, therefore, the framework emphasises people rather than resources, facilities or organisations, and points to the necessity of participatory and sustainable methodologies for socioeconomic development (DFID, 1999; Carney, 2002, p. 8). It also provides a holistic understanding of intra- and inter-household relationships and their impact on livelihood activities. Livelihoods in urban spaces utilise, amongst other things, an array of social networks, land, financial capital and technology to earn income and access goods.

As noted above, another influential approach to understanding local economic systems and how women and men negotiate them is the analysis of value chains. This differs analytically from the SLA in that rather than placing women and men at the centre of the analysis, it focuses on products or

sectors of production. By tracking these, it sheds light on the activities and outcomes of groups of women and men involved in sectors of production. In this vein, a value chain describes “the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use” (Kaplinsky and Morris, 2002, p. 4).

Mapping value chains helps to identify the chain’s links and actors, their functions, degrees of power and relationships. Visualising the stages of production and the flows between these stages enables an exploration of the livelihood system beyond its core value chain to include a wider set of relations, including regulations and connections to other sectors and dimensions of people’s lives. As such, a value chain analysis adds a comparative dimension that is less explicit in the SLA, which does not systemically compare the different groups of women and men engaged in a sector, or explore the way that relations between them are structured. In contrast a key focus of value chain analysis is to identify inequalities between nodes in value chains (i.e. in terms of decision-making power or profit generated), and to highlight that high- and low-value nodes are often associated with different categories of people. Gender analysis of value chains highlights the same trends (Riisgarrd, 2009).

### Livelihood outcomes

The measure of successful livelihood strategies is in outcomes. Outcomes are broader than income (Stiglitz et al 2009) and also include factors such as environmental sustainability, human well-being (Haq, 1995), more egalitarian social relations (Mosse, 2010) or the empowerment of women and other economically disadvantaged groups (Razavi, 2000).

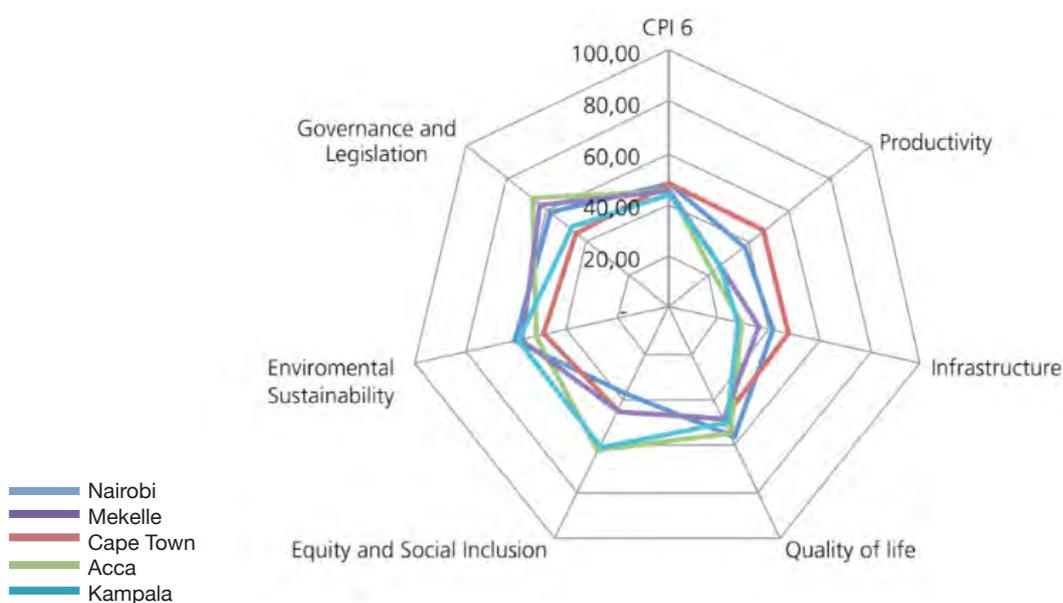


Figure 3: UN Habitat 'City Prosperity Index' for State of the World's Cities Report

‘City Prosperity’, the framework that UN-Habitat uses to analyse the development of cities, reflects this broader conception of outcomes. In addition to economic growth, it also takes into account the delivery of adequate infrastructure, quality of life, equity and social inclusion, environmental sustainability and good governance.

Another aspect of analysing livelihoods systems, which neither SLA nor value chain analysis addresses, is the question of scale and the idea that different scales of action or governance may enhance or obstruct another (Griffin, 2013). Accordingly, our analysis of livelihoods outcomes, (defined in terms broader than income to encompass other aspects of ‘prosperity’) works across three scales—the individual, the settlement and the city—and highlights how livelihood systems are linked to (or delinked from) each other.

### 3.3 Gender Analysis

Issues related to equity, empowerment and human well-being are key components of strategies for economic development. As such, the analysis of livelihoods systems must engage with the ways that livelihoods are structured around social and political power relations, which may offer structural advantages to some while keeping others in poverty. This importance of political and social relations in livelihoods systems is part of a relational understanding of poverty (Mosse, 2010). Furthermore, many of the power relations that construct livelihood systems are built around social norms and practices related to social identities such as gender, age, race, or ability, and their intersection with each other (Chant, 2006, Sen, 2000).

Given that social identity is a critical area for analysis of livelihoods, we draw on the DPU Gender Policy and Planning (GPP) methodology as a framework for this research. GPP goes beyond taking gender relations as an entry point for analysis by providing space to disaggregate the analysis of different groups of women and men, and boys and girls, and to highlight patterns of activity and ownership across different social identities, thus taking an intersectional approach to social identity.

GPP requires an analysis of factors which are critical to interrogating social relations structured around gender and other social identities (see box 1 and appendix 1). These include an analysis of the different ‘gender roles’ that women and men and girls and boys undertake, an analysis of their access to and control over resources, and an exploration of the *Practical and Strategic Gender Needs* that they express (Moser, 1993). When applied to livelihoods analysis, it enables the exploration of inequalities generated in outcomes and opportunities.

### 3.4 Analytical framework

Drawing on the elements discussed above, our broad framework (see figure 4 below) analyses key components of livelihoods systems that are based on the case study settlements, emphasising an analysis of the formal and informal linkages which those systems encompass by looking at a number of components.

An understanding of the **context** of livelihoods activities is a key concern of both the SLA and of value chain analysis, and the ways in which different groups of women and men experience these contexts is a key concern of gender analysis. As discussed above, SLA and value chain analysis examine **livelihood systems** in different ways, with SLA putting individual and households at the centre of analysis, while value chain analysis focuses on the flows of goods and services between actors. We employ both types of analysis by using data collection tools that combine a people-centred approach with networks of relations structured around particular value chains. Our analysis includes an understanding of the capital assets available to people working within the systems, relationships and flows between actors at different nodes in the value chains. Building on this context we then explain women and men's **livelihood strategies** in terms of their agency (the decisions and choices that they make about how to engage in livelihoods), and their circumstances (the specific connections and opportunities that influence these decisions). We then explore the various **outcomes** of these livelihood systems and the choices of women and men working within them, using a wider 'prosperity' framing which, in addition to looking at income, looks at other outcomes such as well-being, empowerment and environmental sustainability. Cutting across all of these areas of analysis is **gender relations**, and a consideration of how each area of analysis plays out across different (individual, settlement and city) **scales**. The findings of this report correspond to these different categories of analysis, with gender and scale as cross-cutting themes throughout.

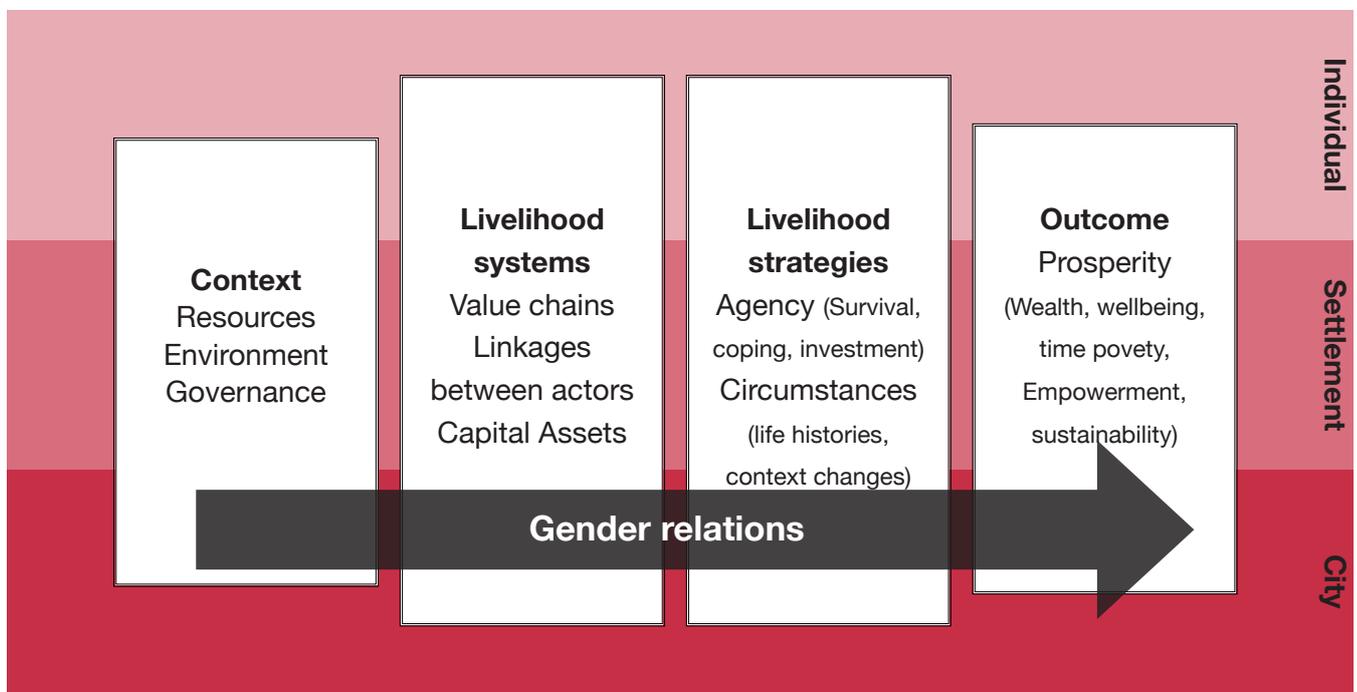


Figure 4: Analytical Framework

## 4.0 Research Methodology and Process

To achieve the research aims outlined in section 1 of this report, we developed and applied a set of data collection methodologies in four settlements to address the following research questions:

- How are some of the livelihood systems around key value chains in each community structured?
- What contribution do the livelihoods systems make to the wellbeing of those involved, as well as the wider community and the city of Freetown?
- How is participation in and wellbeing derived from these livelihoods systems differentiated? Are there patterns related to factors such as gender, age and class and how do these affect livelihoods opportunities, responsibilities and outcomes?
- What are the spatial dimensions of the livelihood systems, and how do these influence their contribution to residents' wellbeing and city development?
- 

### Data collection methods

We used Focus Group Discussions (FGDs) and individual interviews to deliver our data collection tools. These tools included the following (see Appendix 1 for questionnaires and discussion guides):

- *Value Chain Mapping.* FGDs with women and men working in different livelihood systems to map out the structure and the nature of the value chains. The discussions focused on an overall mapping of the nodes in the value chain, who participates in each node and how, the power relations and supporting structures and the impact on the wellbeing of those involved. An initial FGD was held to build an overall map of each value chain and then subsequent targeted FGDs were held with groups of workers from specific nodes in the chain.
- *Daily Activities Chart.* Individual interviews were undertaken with women and men involved in different nodes in the value chains to record the activities that they undertook on the day before the interview (to focus on a real specific day that respondents could easily remember rather than trying to chart a 'generic' day). Starting from midnight to the following midnight,

interviewers asked interviewees to chart the main activities that they undertook throughout the day, down to 15 minutes as a minimum granularity of activities. To analyse the data, the time uses were then divided into eight different categories, broadly grouped under 'Work' (Productive work, Reproductive work, Community work and Travel time) and 'Personal Time' (Leisure, Sleep, Religious activities and Personal care). The total times spent on each category of time uses could then be aggregated and compared across genders and different categories of workers.

- *Personal Life History.* This interview focused on the livelihoods life history of individual women and men involved in the different changes, focusing on why they entered this livelihood and how their participation in it has changed over the course of their career. We also structured the discussion to try to link career changes to changes in context (e.g. environmental changes, changes in rules and legislation, changes in land and property costs, infrastructure provision, etc.) or to changes in personal circumstances (e.g. family and household changes, migration, educational achievement, health issues). This personal life history was then supplemented in each interview with a series of questions about the impact of the work on different aspects of the interviewee's well-being, and a broad understanding of the income they were able to secure.
- *FGD with organisations working on livelihoods in informal settlements.* This focus group discussion targeted NGOs working on support to livelihoods in informal settlements and focused on the type of support that they offer as well as the logic, target groups and impact of this support.
- *Semi-structured interviews with key informants.* These interviews were principally aimed at the regulatory authorities in order to understand their actions and policy on the different livelihood sectors.
- *Analysis of secondary sources of data.* Such analysis involved exploring published literature on livelihoods and informal settlements in Sierra Leone as well as NGO reports, assessments, and other less formal documents.

## Case study selection: Settlements and Livelihood Sectors

The research focused on four informal/slum settlements in Freetown (embedded cases) which were selected from among the 64 settlements identified as slums which formed the initial sampling frame. The rationale for the use of the embedded cases is to allow a more detailed examination of the issues.

Prior to constructing the sample frame, a consultation session between SLURC and other Comic Relief grantees was undertaken in order to: seek clarification about how settlements in Freetown are classified as informal settlements and the names and total number of informal settlements, including the actual location of such settlements in Freetown. This was followed by a field visit to nearly all the settlements specifically to gather additional information about the precise location of settlements in terms of whether they are coastal, hilly or inland as well as whether they are located in the East or West of Freetown. The 64 settlements that formed the sampling frame were selected using purposive sampling, since the SLURC team already know something about the settlements that they wanted to study in an attempt to bridge the knowledge gap.

Four criteria were used to enable an objective assessment of the qualifying settlements. These criteria were diversity of settlement type, location, amount of existing knowledge on the settlement, and presence of development actors. Using the selection criteria enabled us to avoid having to compare one settlement with another. Rather, each settlement was assessed against the list of criteria with only those settlements that met the criteria being selected from the sample frame. Settlements that passed the set criteria were then evaluated against the following three measures in order to identify the final selection for inclusion in the plan:

- Presence of '*Pull Slum Pan Pipul*' grantees
- Opportunity to conduct research
- Opportunity to generalise findings

Finally, four settlements were selected:

- Two coastal settlements—Cockle Bay and Portee/ Rokupa—from the West and East of Freetown, respectively.
- Two hillside/hilly settlements—Dwarzarck and Moyiba—from the West and East of Freetown.

In terms of the value chains/livelihood systems selected in the settlements, we focused on sectors that characterised the settlements in that they were typical forms of livelihood and/or linked to the collective identity of the settlement, and they employed large numbers of people, specifically poorer residents. We further focused on sectors in which both women and men worked. In the case of Cockle Bay, it became apparent that while women are involved in sand mining, their participation was solely for household construction and not as a livelihood, so in this case (as the sand mining chains is a 'male' sector) we also selected two sectors which are 'female' sectors (cockle picking and trade).



Map 1: location of selected settlements within Freetown

## Testing and application of the methods

We tested these data collection tools during a pilot workshop in February 2017. Around 30 participants attended the workshop, including residents of the four informal settlement communities that the research targeted, members of the Federation of Urban and Rural Poor in Sierra Leone (FEDURP-SL), staff from the Freetown city government and representatives from the PSPP NGOs working on urban poverty in Freetown. The purpose of the workshop was two-fold: to build participants' skills in undertaking research on livelihoods and gender and to pilot the research tools. Two key outputs of the workshop therefore were the final data collection tools, refined on the basis of their pilot application (see appendix 1), and the identification of a number of the workshop participants to act as field researchers during the main research initiative, leading to a final field research team of two women and three men trained in the data collection methods.

The main research was then implemented between March and July 2017. Table 1 below summarizes the implementation of the data collection and some notes on the lessons learnt during the data collection, which will feed back into future application/refinement of the tools.

| <b>Tool</b>            | <b>#Conducted</b>  | <b>Lessons</b>   |
|------------------------|--|--|
| Value Chain Mapping    | 26 FGDs<br>women/men   | -Some questions such as ‘who is the most/least powerful’ actor in the value chain lacked clarity and were interpreted in very different ways by different groups of participants, making the data difficult to analyse.  |
| Daily Activities Chart | 44 interviews  | -There was initially some confusion amongst field researchers about how to classify time uses (e.g. conflation of reproduction and personal care, or travel and production).<br>-We were not able to focus on concurrent activities (e.g. childcare at the same time as productive work) which means that some roles are likely to have been unreported.   |
| Life History           | 27 interviews  | -Some respondents found it hard to remember the year in which a given life or contextual event had happened, affecting the reliability of the timeline.<br>-This tool needs reflection on how to prompt without leading as, for example, some major events which had affected the participation in the livelihood (e.g. the Civil War or the Ebola epidemic) were not mentioned by many participants unless they were prompted by interviewers.<br>-This interviews included an attempt to gauge current income derived from the livelihood. However it was very hard to get a clear idea of average earnings as many respondents earnings fluctuate highly (both seasonally and daily according to supply, for example of fish, and demand, for example of stone). In addition, while many respondents had a clear idea of the value per unit of their output they were not able to give a clear idea of average quantity sold. |
| Organisation Support   | 2 FGDs   |  |
| Governance Actors      | 3 formal semi-structured interviews and a number of interactions | -Inviting these key actors at a conference on the topic of Freetown informal economy provided a space to discuss different views of informality and proposed interventions in a constructive environment.  |

Table 1: Implementation of Data Collection

## 5.0 Findings and Areas for Further Research

This findings section analyses the livelihoods systems at four levels, namely:

- The settlements' livelihood contexts
- The livelihood systems
- Livelihood strategies (individual and collective strategies and relations)
- Livelihoods outcomes (individual, settlement and city scales)

Cutting across these four levels of analysis is an analysis of how social identities (specifically gender, age and class) affect people's participation in, experience of and benefits from their livelihoods activities.

### 5.1.1 The Livelihoods systems

#### Stone Quarrying in Moyiba

Moyiba is situated in a hilly area on the eastern side of Freetown, 5 km from the city centre. According to the last census (2015), the settlement has 37,000 resident population of which half are young people. The settlement was established in 1919 and was a farming community (Kannada Farm) until 1966, when a stone quarry was established for the construction of major infrastructural projects in Freetown, such as the main trunk roads, Queen Elizabeth Quay, Congo Cross Bridge, National Stadium and the Youyi Building.

The houses are built with mud-brick walls and corrugated iron sheets and cement floors. Very few makeshift structures, commonly called '*pan-bodi*' (corrugated iron houses), exist in the community. There is a lack of formal land title deeds with most plots informally owned by individuals/families and/or occupied by tenants. The community has no clear boundaries. Neighbouring communities include Kissy Mamba Ridge, Kissy Brook, Kortright, Mount Aureol and Blackhall Road.

Given the unplanned nature of the settlement, provision of infrastructure and services is a key challenge for residents. The settlement has poor road networks and, as a result of the difficult terrain, the vast majority of residents access the community via foot paths. Access to water is



obtained primarily through four community water points, one piped water supply, and a dam. There is limited access to electricity. Residents mainly rely on pit latrines, *'flying toilets'* (defecation into polythene bags that are subsequently dumped along major drainage channels), and open defecation. The lack of sanitation facilities and poor hygiene practices contribute to the water contamination faced by downslope residents and the prevalence of water-related diseases in the area such as cholera, typhoid, and malaria. Data gathered for another research project (ReMapRisk) shows that malaria is perceived by the local community as the most prevalent health issue, followed by Sexually Transmitted Diseases (STDs) and cholera. There are 23 schools (four secondary and 19 primary) and one health centre in the community.

Many of the trees in the settlement have been felled to make room for construction with resulting denuded steep and dangerous slopes. The erosion resulting from this, as well as from building interventions, results in unstable conditions, increasing the risk of landslides, rock-falls, road accidents and mudslides, particularly during the raining season. The activities associated with the quarry at the uppermost part of the community exacerbate the situation because they also remove vegetation. The consequence of this is severe erosion causes high silt loads to occur during heavy rains, contaminating the stream and blocking the downstream channels.

Income levels in Moyiba are generally low. The majority of the residents derive their livelihoods from stone quarrying, self-employment or small business enterprises (petty trading). Since the mechanised process of stone quarrying collapsed in 2002, increased rural-urban migration during the civil conflicts and the open access nature of the quarrying site have made stone quarrying a major source of livelihoods in Moyiba. In addition to creating employment and income for local residents, quarrying also provides resources for infrastructural development such as housing and roads in the community. Both men and women are involved in quarrying with clear gendered division of labour at every stage of the process.



Moyiba's commercial quarry was founded in 1966 and continued to operate until 2002, when it shut down due to the civil war.

This quarry used a large scale mechanized process, and many local people were employed by the company which operated it. Since the company shut down, self-employed, informal workers who work in different parts of the process and sell their outputs along the value chain of production have taken over quarrying activities. Women, men and boys work in stone quarrying though each group tends to predominate in different nodes of production.

The main quarrying activities take place on the hilltop above Moyiba, reached by an

unpaved access road. However, at the bottom of the quarrying zone, there are houses in the same areas that stone extraction and breaking take place. The quarrying sites in Moyiba are on land which is publicly accessible and the stone is seen as an open access resource. Since there is no NGO presence in Moyiba, community-led projects remain key for development. These include Community Based Disaster Management Committee, Community Health Workers, Community Steering Group and Blue Flag Volunteers. In addition to the closure of the commercial quarry in 2002, a number of other factors have also affected work in this sector. First, access to the site is periodically suspended by local governance institutions, for example by the police after an accident on the site which led to a death in 2014, and as a result of land disputes in 2015. Second, site access is intermittently interrupted by environmental conditions such as when heavy rains make the unpaved access road unusable. Nonetheless, quarrying remains an attractive source of livelihood as growing construction activities in post-war Freetown have raised the price of stone. That said, stone quarrying is increasingly in competition for land with housing, as the settlement of Moyiba continues to grow up the hill toward the quarry.



Main sites of quarrying activities (extraction and breaking)

Unpaved access road

School

Main sites of quarrying activities (extraction and breaking)

Map 2: Aerial view of Moyiba showing housing density and the quarry sites. The community slopes up steeply towards the old commercial quarry visible to the right of the photo.

As outlined in Figure 5, the stone quarrying value chain in Moyiba links a number of actors and activities, starting with the initial extraction of rock and ending with the use of the stones and gravel produced in local (Moyiba) and citywide construction projects. The connections between the nodes in the chain are not arranged in a standard form, or indeed in a linear structure. In contrast, nodes may be bypassed as a result of direct local demand involving direct sales by rock breakers, or extra nodes may arise as a result of fluctuations in demand. For example, the rock extractors and breakers may at times sell directly to local builders or households involved in self-construction at a higher price rather than through middlemen or contractors. On the other hand, while rock breakers sell directly to contractors when demand for stone is high, when it is low they may sell rock to local middlemen who will stockpile rocks and sell when demand increases.

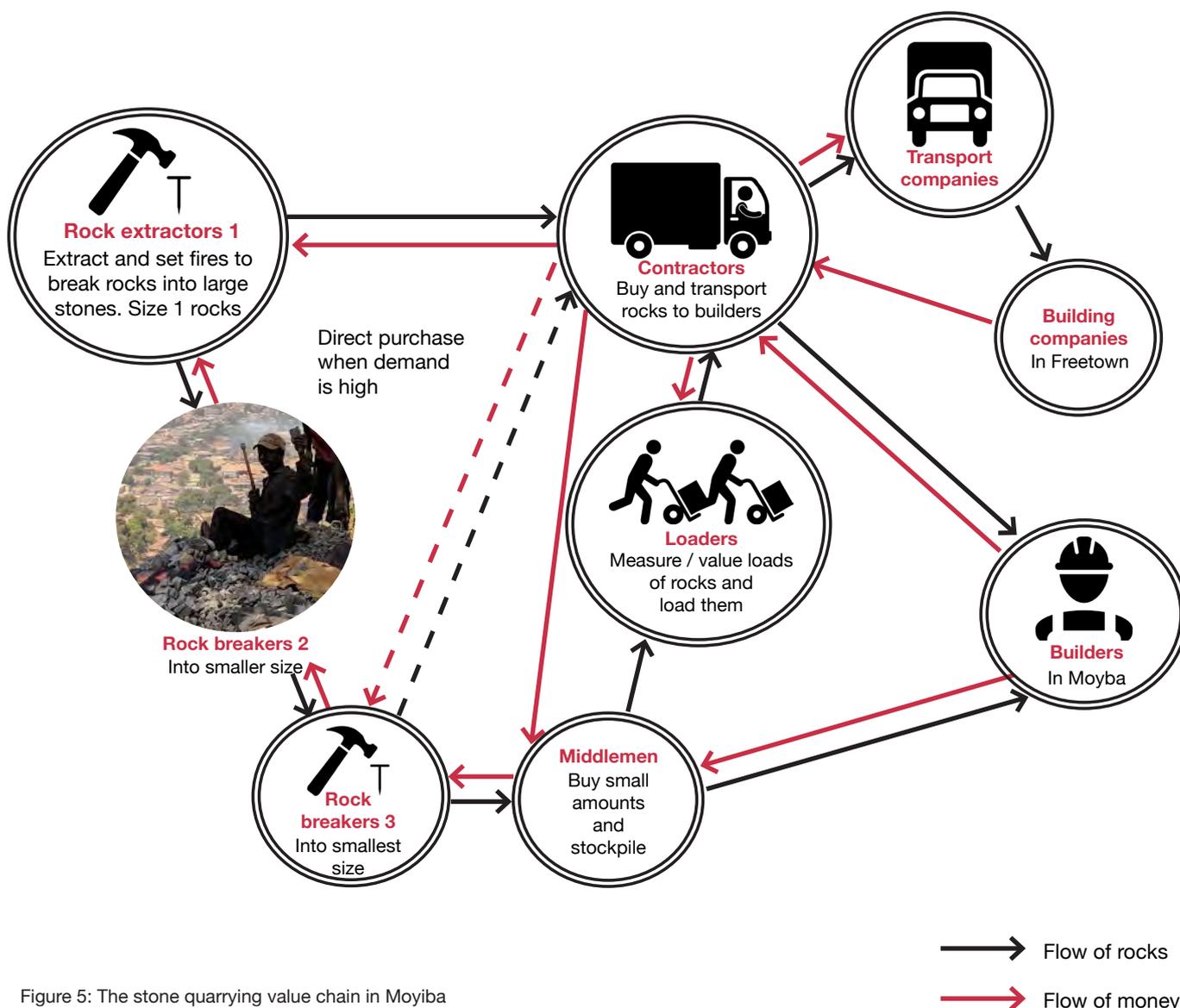


Figure 5: The stone quarrying value chain in Moyiba

The main ‘flows’ in the value chain are of rocks, labour (e.g. the work of loaders) and of money between the different actors, though (as discussed below in Table 2) frequently money flows are delayed, or indirect, through systems of trust, credit and agreed shares of processed rocks. The value chain is more complex because different nodes may be undertaken separately by different groups or, in some cases, a whole range of the processing phases may be undertaken by the same person (e.g. a rock extractor also breaking down rocks to fine building gravel rather than passing it on to other rock breaker groups).

| Stages  | Actors   | Processes and relations   |
|---|--|---|
| <p>‘Boss-Boss’</p> <p>This stage involves setting a fire under a large boulder (normally burning a used tyre) to crack it and breaking it down into rocks that can be transported from the site. It requires an investment of at least Le 2 million (USD 260) for the purchase of the required tools (sledge hammer, pick axe, charcoal, tyres, etc).</p> | <p>This stage is carried out exclusively by men, particularly young able-bodied men. This is justified on the basis of men’s physical suitability for the hard physical work involved.</p>   | <p>The extracted stones are generally not sold to those processing smaller sizes of gravel further down the chain. Instead, an agreement is made that Boss-Boss stone extractors will receive a share of the processed stones from the women stone breakers (see below). Boss-Boss men then sell on the processed stones (or sometimes the large unprocessed stones, if required) directly to contractors or to petty buyers.</p> |
| <p>‘Cut cut’</p> <p>This stage involves breaking up the large rocks extracted by the Boss-Boss workers to stones which are small enough to be worked on by the women and children in the subsequent stages. They use hovels, Cut-Cut hammer, 4 and 3 pounds hammer</p>  | <p>This stage is carried out only by men, often on a part time basis – for example, students or people with other jobs (e.g. drivers, carpenters, security guards). Interviewees said that the capacity to do this work relates to skill, not strength. However they also said that women only do this work ‘if they don’t have men to carry it out for them’. Children are not involved as the hammer are too heavy for them. This work is often done to supplement other sources of income or pay for education costs. Sometimes, this work can be done by men working at the Boss-Boss stage.</p> | <p>According to respondents, the women engaging in subsequent stages of the process bring large rocks from the Boss-Boss site, and ‘hire’ the Cut-Cut men – i.e. pay them cash to break stones to a size that they can the work on themselves. Cut-Cut men may also sell directly to petty buyers. Cut-Cut men work both individually and in groups.</p>  |

Table 2: Actors and processes in the quarrying sector in Moyiba

| Stages  | Actors   | Processes and relations   |
|---|--|---|
| Three quarter   | <p>These stages are mainly done by women and children. The age of people in our respondent group ranged from 7 to 68. This work is often done by women and children who have few other opportunities for support (e.g. widows, women and children from low income households, illiterate women).</p> | <p>The women engaging in these phases acquire rocks from Boss-Boss men or petty buyers. They then process the gravel to the size requested by the rock owners, and in payment are given a share of the rocks to sell themselves. As discussed above, if they are given the rocks in large Boss-Boss form, they pay the Cut-Cut men in cash to break them down to a manageable size for processing. The women then give a share of the processed gravel back to the original rock owners, and sell their own share to contractors or petty buyers.</p> <p>Petty buyers may also lend women money on credit, which is repaid with gravel.</p> |
| <p>This stage involves breaking down stones to large gravel using hammers and a metal sickle tool.</p>        |  |   |
| Half inch   |  |   |
| <p>This stage involves breaking down stones to medium sized gravel using hammers and a metal sickle tool.</p> |  |   |
| Millimetre messeh messeh  |  |   |
| <p>This stage involves breaking down stones to fine gravel using hammers and a metal sickle tool.</p>         |  |   |

| Stages   | Actors  | Processes and relations   |
|--|---|---|
| Load man   |   |   |
| These workers are paid (LE 500 per headpan USD 0.06) to move loads of rock/ building gravel from processing or store sites to contactors trucks.   | These are men, normally students or people with other jobs, who do this work to supplement their income.  | Load men are self-employed and paid cash by contactors. There is a load man association which is registered with Freetown City Council and only those registered with this association are allowed to work as loadmen in the quarry.  |
| Petty buyer  |   |   |
| Petty buyers buy, stock-pile and trade the different sizes of gravel and stone to sell at a profit.  | There are only five petty buyers in the community, as it requires LE 7-8 million (USD 910-1,040) startup capital, which is a considerable amount for the settlement. Of the five, only one is a woman. Women generally work at this stage in joint businesses with their male partners. | Petty buyers buy different sizes of gravel from women or Boss-Boss men to sell to contractors. They typically sell to contractors at a small mark-up (e.g. buying three quarter gravel at LE 2500 per headpan [USD 0.33] and selling the same amount to contractors for LE 2700 [USD 0.35]). They may also buy large stones directly from Boss-Boss men and commission women to process it into gravel by arranging to share the processed stone with them at 70-30% or 60-40%. Petty buyers have enforced a rule that restricts women from selling gravel directly to contractors if they have been advanced stones by petty buyers. |
| Contractor   |   |   |
| Contractors transport and sell stones and gravel to building companies. They visit construction sites around the city with samples of the different sizes or stone and gravel to secure contracts. They then hire vehicles to transport the building gravel to the construction sites. | Contractors range in age from 20 to 70 years old. They are mainly men but there are a few women.<br><br><i>"We do not have huge capital as people think but lean on our good relationships to get our daily income."</i>  | Contractors buy stones and gravel from petty buyers (or, at times of high demand, they may buy direct from stone processors). They pay loadmen cash to load vehicles. Payment for transport (separately to drivers and to vehicle owners) is deferred until after the gravel has been sold. Contractors may give advanced payments to petty buyers. There is an association for the stone brokers (the Nack Force Association) where contractors play an important role, which is registered with Freetown City Council, and regulates relations between actors in the sector.  |

### *Formal and informal governance*

There are several primarily informal governance processes that affect the people relying on stone quarrying as a source of livelihood in Moyiba.

Stone quarrying officially falls within the domain of the 2009 Sierra Leone Mines and Minerals Act. This Act also contains a section on 'artisanal mining' (Part X) which specifies that any person or group conducting artisanal mining should apply annually for a license after first obtained the consent of the Chiefdom Mining Allocation Committee (CMAC). Furthermore (para 93), if mining activities are considered to be 'dangerous or defective' by an 'authorised officer,' then they can be suspended. The reality of the governance of stone quarrying seems to partly reflect this policy intention. On the one hand, in the case of stone quarriers in Moyiba, none of our interviewees reported that they were licensed, either individually or as a cooperative, and among artisanal stone miners we found no evidence of knowledge of this requirement. The most organized group in the sector in Moyiba, the stone contractors, explicitly told us, *"We do not have licenses to operate as stone contractors"*. This is because any resident is permitted de facto to engage in quarrying activities. That said, we learned of two periods during which the police suspended mining activities across the settlement, in one case as a result of fatalities on the site and in the other because of a land dispute on the quarry. While mining activities are not appropriately licensed, they do appear to be regulated to some extent by the authorities.

In addition, while there is no formal registration of artisanal miners, several groups have occupational associations registered with Freetown City Council, although their registration is not always current (e.g. the loadmen's association and the Nack Force Association). These associations play a role in managing disputes across the sector and setting up mutual welfare societies. Research participants explained informal community 'bylaws' that regulate work in the sector, generally implemented by the police and related for the main part to disputes over payment, mining in sensitive sites (e.g. road mining) and appropriate behaviour. Penalties for breaking such bylaws are fines, which are used by the community to fund infrastructure projects such as road maintenance. Petty buyers also appear to regulate the sales practices of women working in the smaller stones processing, prohibiting them from direct sales of gravel if they have been provided stones by petty buyers.

### **Stone quarrying in Dwarzarck**

Dwarzarck is a typical hillside settlement approximately 5 km from the city centre which has been populated since the 1940s. Since the 1980s, rapid urbanisation has outstripped investments in infrastructure. There are approximately 16,500 residents, of whom 65 percent are under the age of 30, with an average household size of 7 (YMCA, 2012). The topography of the land is undulating and composed of large rocks/boulders over hanging dwellings. The settlement is characterised by poorly constructed housing (mainly mud bricks and corrugated iron sheets), together with poor road networks and sanitation facilities. Land ownership in the settlement is contested and this hinders investment in improved housing and public infrastructure development.

Research reveals that 90 percent of the land area in Dwarzarck is used for residential purposes,

with only 10 percent used for other purposes such as road construction, agriculture and recreation (CODOHSAPA and FEDURP, 2011). About 3.5 percent of the land area is occupied by the Sierra Leone Bottling Company. The community has 12 public toilets used every day by more than 2,500 people. There is no connection to the main city water pipeline and only 20 public water points which serve more than 4,000 residents every day. Therefore, locals depend on the George-Brook Stream, wells and spring water to serve their daily water needs. The community has one formal market, twelve schools and one health centre.

The settlement's characteristics and location make it prone to fires (12 outbreaks between 2010 and 2016 mainly from domestic fuel use and faulty electrical equipment), floods (especially for residents living along the edges of the George-Brook Stream), rock falls (exacerbated by erosion and construction on the steep hillside), and outbreaks of waterborne diseases (from inadequate supply of treated water and solid waste disposal in drains and the stream). Although the number of fatalities from these risks appears to be relatively low (barring the recent 2014 Ebola outbreak), cumulative vulnerability in the settlement is significant.

Like in many other communities close to the city centre, residents in Dwazarck frequently visit the Centre Business District for groceries and for education and employment (casual and formal). Most women are petty traders engaged in "table top businesses", or home-based enterprises, with a few in formal employment. Some of the women are involved in agricultural activities along the bank of the George-Brook Stream, which flows through the community and empties into Kroo Bay, one of the largest informal settlements in Freetown.

Due to the historic availability of rocks as an open-access resource, stone quarrying is an established livelihood in the community and, according to the estimates of our interviewees, more than 500 residents of Dwazack are currently involved in different stone quarrying livelihoods.

Stone quarrying in Dwazack is distinct from stone quarrying in Moyiba. A key difference is that, over the past decade, due to the increasing population density, stones have ceased to be an open access resource and are now considered to be 'owned' by the owners of the land on which they sit. As one interviewee observed:

*"Before 2012 there was a lot of stone in the community though it was quite cheaper but we did not have to add extra energy to unearth the stones, you only needed to walk around and gather it at a comfortable location for it to be cracked. But it has long changed as people now restrict the stones on their site only for their purpose and use."*

At the same time, the city government has restricted mining of stones in public spaces by banning 'street mining' of stones. Together, these factors have resulted in some changes in the stone quarrying activities. First, it means that where stone is quarried within the community, the 'crack-crack' workers who do the initial stone extraction may extract the stone and sell it to the landowner of the site from which the rock was taken, at a discounted price, in recognition of the landowner's ownership of the resource. Alternatively, they may buy the stone from the landowners or caretakers. Secondly it means that residents of Dwazack involved in stone quarrying are increasingly going outside the community

to access stones in areas (such as American Embassy, Leicester or Gloucester) where stones are still an open-access resource. At the same time, our interviews suggested that stone quarries in Dwarzark are increasingly facing competition for stones from residents of neighbouring hillside communities, including IMATT, Moyiba and Regent. As with Moyiba's stone quarrying, both men and women, as well as children, worked in stone quarrying, but in distinct nodes of the value chain.

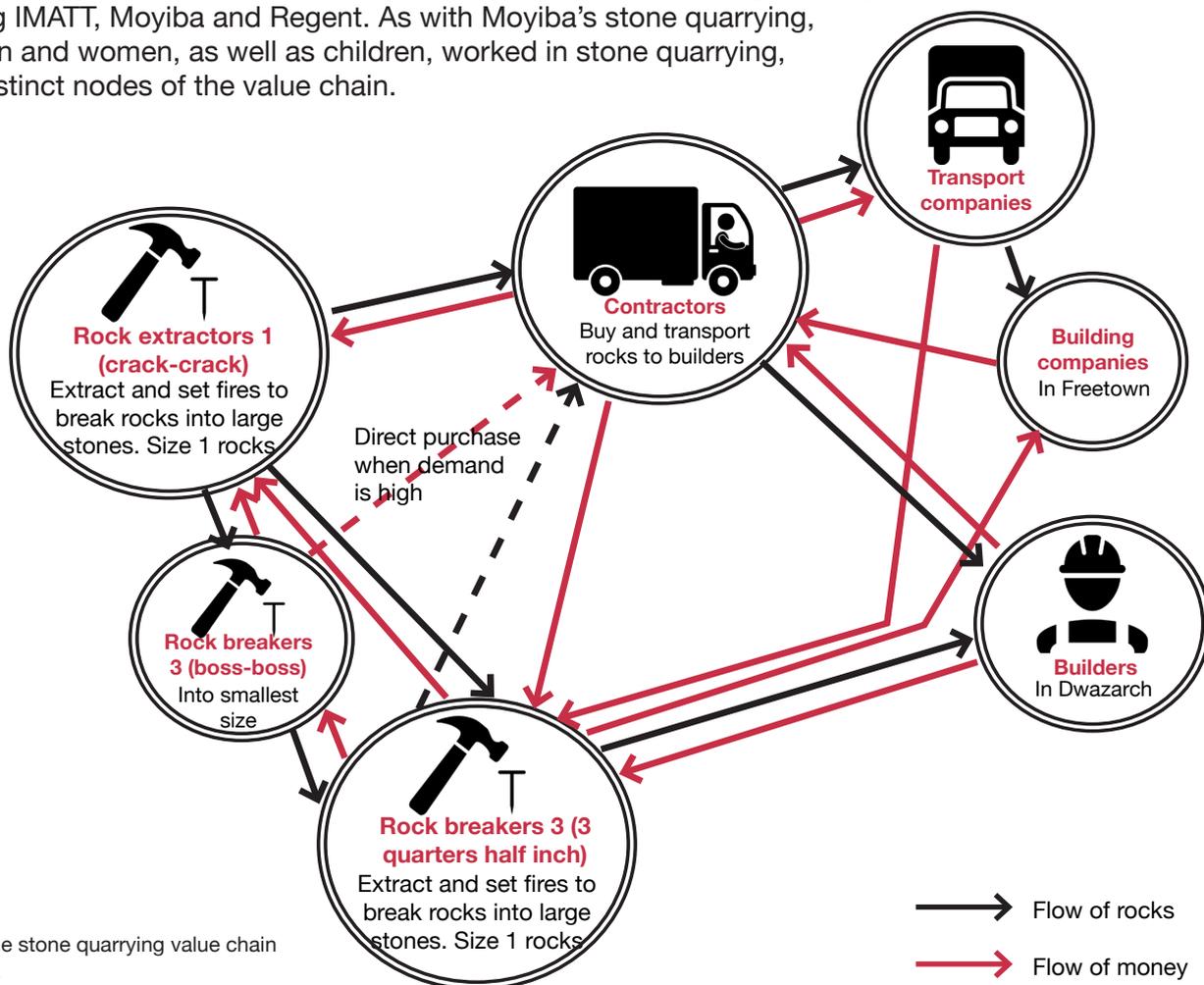


Figure 6: The stone quarrying value chain in Dwarzark

| Stages  | Actors   | Processes and relations  |
|---|--|--|
| Crack-Crack (extractor)   |  |  |
| Digging around boulders to expose the stone; setting fire to tires in order to crack the rock with the help of hammers and chisels; and extract stones for processing | Mostly men between the ages of 27 and 55, low-income earners, unemployed/self-employed | The crack-crack men generally get paid immediately by those who contract them to break the stones. These are either the owners of the land on which the stone is located or other customers. Alternatively, they can also sell it to people in the following stages. |

Table 3: Actors and processes in the quarrying sector in Dwarzark

|   |   |   |
|---|---|---|
| Medium stone breaker<br>(Boss-Boss)   |   |   |
| Break the stones into small particles ('cut-cut') and sell to women   | Mostly strong men with limited skills, students, unemployed youths, physically able-bodied, ages 18-40 years                          | Some work for their parents and some work on contract. When working on contract, the person hiring them will transfer the stones to where they should be broken to medium size. There they will be broken and receive cash. Sometimes they enter into contract with someone who has a stone but does not have money to pay for it to be broken down. In this case, they share the stone equally after they break it down before it is taken to the following stage. |
| Smaller stone breakers<br>(size 3 – three-quarter)  |   |   |
| Transferring of stone to breaking site in a head pan and breaking down the stones to a smaller size.                          | Mainly women including children, traders, illiterate people, students, married women, few widows and single women, low income earners | They buy stones from the previous stage and break them down in smaller parts. They can either sell them to customers or to smaller stone breakers at the following stage. Buyers come for themselves when there is scarce stock, or they sell directly to builders/contractors. They can also pay breakers at the last stage to break stones further and then they sell it to customers once it is half inch size.  |
| Smaller stone (half inch)   |   |   |
| Three-quarter stones are broken into half inch  | Low income-earners, women and children, self-employed, some members operate on contract basis   | They either buy stones from breakers in the previous stage and then sell it to customers or are hired by people at previous stage to break their stones. Most times, stone breakers in all of the stages sell directly to customers and also provide the labour for loading the stone into the customer's vehicle.  |
| Contractor<br>Search for customers<br>Hire loaders (men) and vehicles<br>Pay loaders<br>Sell to customers and deliver to site | Mainly middle-income men and few women age 35 and above, people with other alternative livelihoods                                    | They buy stones of different sizes depending on the need and deliver it to building companies across Freetown but also within Dwarzarck.  |

### *Formal and informal governance*

The governance of stone quarrying in Dwarzarck is similar to that in Moyiba to the extent that the 2009 Sierra Leone Mines and Minerals Act does not appear to be formally applied in relation to quarrying activities, and none of the people or groups involved in quarrying are licensed. In addition, perhaps due to the fact that quarrying in Dwarzarck is dispersed and there is no clear quarry site as in Moyiba, we heard no reports of the regulation or suspension of quarrying activities by authorities although we were told that the city authorities had banned street mining (mining activities affecting road infrastructure).

However, as in Moyiba, there is community-level regulation of quarrying, with informal bylaws such as the prohibition on quarrying in sites that affect community roads or without the permission of houses on whose land boulders are found, and bans on fighting and abusive language. Fines of up to LE 100,000 (USD 13) can be imposed on those who do not respect these bylaws, to be paid to the chief and used for community projects. Unlike in Moyiba, there was no mention of formally registered occupational associations in Dwarzarck, though interviewees did say that workers in different stages of production have collective arrangements for mutual support and loans amongst themselves.

### **Portee-Rokupa**

Portee-Rokupa is located near a beach in a small bay surrounded by a cliff in the eastern part of Freetown, 10 km from the city centre. The settlement was established in the early 1940s. As a result of the expansion of the urban economy in the 1950s, many people from Port Loko came to trade in the community, known by its nickname, 'Ro-Poti'. Recent population estimates of the community are just over 6,000 including nearly 2,600 women and children under 5 (YMCA, 2012). The ReMapRisk survey put the at 7,000 in 2017.

Because of poverty, high rental costs in the community, and a shortage of land for settlement expansion, the migrant population had no option but to reclaim the available land at the seafront to build their dwelling shacks. Portee-Rokupa is characterised by small houses made of concrete blocks or mud blocks with plastering, located close to each other. People refrained from gradually investing in their houses due to tenure insecurity. There is a lack of formal land titles even among landlords in the community.

The settlement is also characterised by high levels of poverty and inequality, unemployment, illiteracy, and poor hygiene. The poor living conditions, the high population density and the lack of improvement in services and infrastructure coalesce into worsening socioeconomic conditions. There is no space for social infrastructure facilities like schools, health centres and markets and there is no sewage system. Local dwellers have limited access to essential services such as water and electricity. There is a very high environmental risk due to the cliff and the population living on the plateau sends its waste and contamination down to the informal settlements. Residents are disproportionately affected by disaster events such as seasonal flooding, particularly the 2012 floods which displaced over 3,000 people, mudslides, cholera in 2012 and the Ebola virus which affected 18 people in the informal settlements (Macarthy et al., 2017). These incidents are largely caused by poor sanitation practices,

contaminated water sources, limited access to clean and safe drinking water, coastal pollution, poor waste management practices, and high population density. A number of Community Based Organisations and NGOs like BRAC, GOAL-SL, and WASH Consortium are working in the Portee-Rokupa community.

The main source of earning livelihood for the community is petty trading and especially fishing. Over the years, the settlement has become one of the largest fishing communities along the coastline in the east end of Freetown, building an identity as a fishing community. These informal economic activities are growing because of the community's strategic location, close to the main transport route linking the east and central business district and to the seafront that connects the Port Loko district.

The fishery sector in Portee-Rokupa includes fishing, the processing of fish through smoking and the sale of both raw and smoked fish. A range of different boat types are used for fishing which can be broadly divided into the large 'Ghana' boats (with a crew of 25-30) and the 'Capital' boats (with a crew of about 6). Access to fishing areas are good as the fishers have direct access to the more sheltered bay area, as well as being able to indirectly access the open sea.

There is no data on the number of people involved in the sector, but interviewees estimated that there are more than 100 boat owners and over 50 fish agents. Many of those we interviewed had either been born into or married into fishing families. It is also a sector which often employs an entire household with family members involved in different nodes of the fishing value chain (for example, women who are fish agents or processors are likely to have husbands who are boat owners or fishermen).

Access to fish markets is also good due to the settlement's proximity to the Bai Bureh Road which is both the site of local wet fish markets and offers access to markets in the city centre. According to interviewees, people come from all over the city and even from other provinces to buy fish from Portee-Rokupa, and the women fish sellers from the community also sell their fish in the main markets elsewhere in the city.

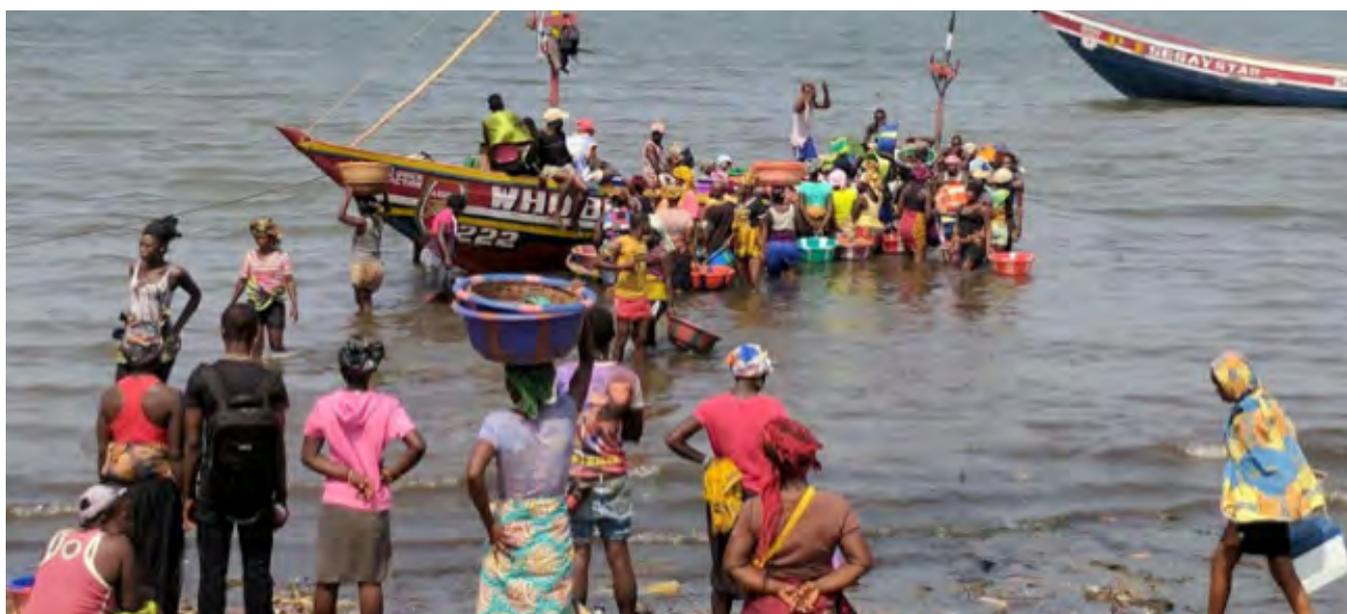


Figure 7: The fishing value chain in Portee-Rokupa



Map 3: Aerial view of Portee-Rokupa showing housing density and fishery sites.

Boats

Sale of raw fish on shore/ boat side

Highest density/ most informal housing zone. Fish smoking activities are dispersed within the housing areas.

Bai Bureh, paved main road

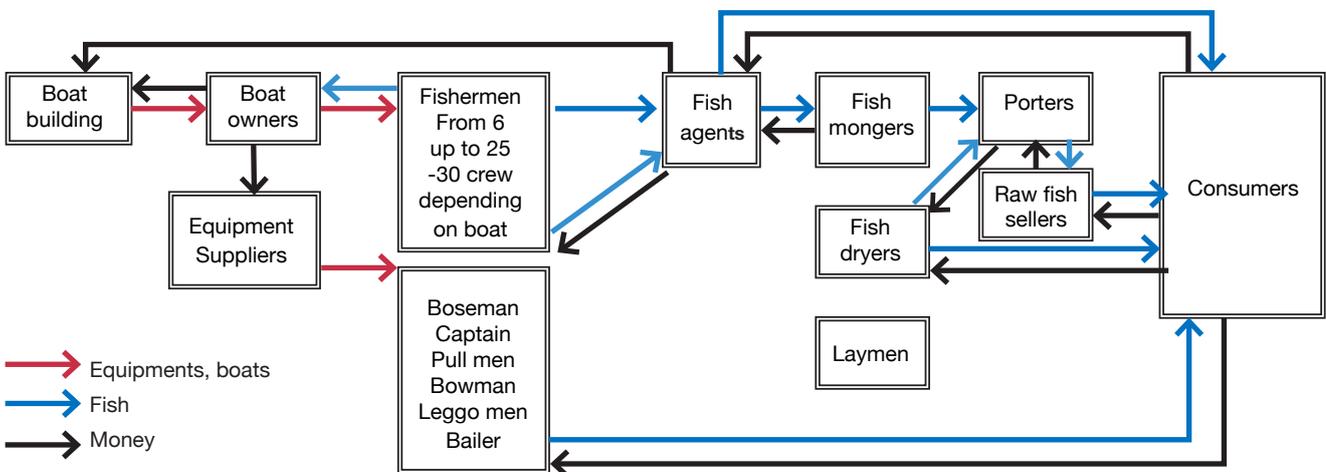


Figure 8: The fishing value chain in Portee-Rokupa

| Stages   | Actors  | Processes and relations  |
|--|---|--|
| <p>Boat builder</p> <p>This group undertakes buying of materials and building of boats. Boat building takes from a week to a month depending on the size and type of the boat, and prompt payments by customers.</p> | <p>There are about 22 boat builders in the community who are mainly men since <i>'women are not attracted to it due to the heavy work involved'</i>. The builders are generally made up of healthy and abled -bodied men, often with low levels of education. The majority were apprenticed into the profession through family connections.</p> | <p>An agreement is made in advance for how much will be paid for the boat (based on its size and type). The buyer will advance payment for some of the work and materials (timber, nails, and money for the feeding of the boat building team).</p> <p>They also get fish from boats that they either build or repair as a way to keep a strong relationship with boat owners and fishermen. Boat builders have formed a Boat Builders' Organisation to handle problems such as the non-payment of the balance by boat buyers. The organisation also supports the welfare of members at times of need.</p> |
| <p>Boat owner</p> <p>The boat owner commissions fishing crews. He/she needs to buy the boat, contract a boseman who assembles the crew, and contract an agent for the sale of fish (often a female relative).</p>    | <p>There are around 100 boat owners in the community. They range in age from young adults to elderly people and are mainly men, though there are some women. They need to have enough money to pay for the boat.</p>  | <p>Boat owners need to advance payments for the construction of the boat (as above). After each time the boat goes to sea, the catch is divided, and the boat owner receives the larger share of the catch in payment, but is also responsible for covering fuel and boat maintenance costs. The boat owners then pass their share of the catch to the agent who will sell the fish and subsequently pay them for it in cash.</p>  |

Table 4: Actors and processes in the fishing sector in Portee-Rokupa

| Stages  | Actors  | Processes and relations   |
|---|---|---|
| <p>Fishermen</p> <p>These include a range of different roles:<br/> <i>Boseman</i>: head of the crew and responsible for the control of all logistics and for hiring the crew<br/> <i>Captain</i>: controls the engine<br/> <i>Leggo man</i>: responsible for the anchor and cleaning of the boat.<br/> <i>Bow man</i>: looks for fish at sea.<br/> <i>Pull men</i>: responsible for dropping &amp; pulling the net<br/> <i>Bailer</i>: empties water from the boat.</p> | <p>The fishermen are all men and range in age from around 25 to 30. They mainly come from fishing families.</p>                                       | <p>The fishermen are paid by the boat owner in a share of the catch. The size of their share depends on where their role is in the hierarchy of jobs. They are often members of various fisherman's 'clubs' which provide loans for livelihoods development and welfare.</p>  |
| <p>Agents</p> <p>Fish agents use their social networks to find customers (including fish mongers) to sell fish to, at the boatside. One person can be an agent for up to 10 boats.</p>  | <p>There are over 50 agents in the community. These are all women, most often the wives of boat owners, and they tend to be uneducated women.</p>     | <p>Agents negotiate fish prices (per 'rubber' of fish) to fishmongers, who they attract to the boat side, and sell to them. They keep 10% of the sales value and the rest goes to the boat owner/crew. Fish agents have a club that promotes their welfare and provides support.</p>  |
| <p>Fish smokers (dryers)</p> <p>Buy fish direct from the agents at the boats, smoke it at their homes using a dryer ('Banda') with assistance from laymen, and pack it for sale in markets and sell direct to wholesalers.</p>  | <p>Fish smokers are from fishing families. They are mostly women with very few men. They need some capital to buy equipment and fish to start up.</p> | <p>Fish smokers purchase their fish from agents. They pay labourers to carry the fish to their smoking houses and laymen to lay out their fish for smoking (in a cash fee per quantity (per 'rubber') of fish. They sell the smoked fish to wholesalers. They have an organization called Fish Women in Action which has a savings/credit scheme for members.</p> |

| <b>Stages</b>  | <b>Actors</b>   | <b>Processes and relations</b>   |
|--|---|--|
| Labourers  |   |  |
| Labourers carry the loads of fish from the boats to the road junction, houses of fish smokers, or markets. They usually start work very early in the morning to get the fish to market for the start of the day. | There are around 60 labourers in the community who are mainly young men, school dropouts and students.  | Labourers are paid in cash by fish smokers or fish mongers, based on the distance and the weight of the load.  |
| Laymen   |   |  |
| Laymen wash and clean the fish and lay it out on the grid for smoking.   | These are young people, mainly young men and boys, who are often students, and there are some women who are usually relatives of fishers.   | Laymen are paid in cash by fish smokers. They are paid LE 5,000 for a 'small rubber' and LE 7,000 for a 'big rubber' of fish. Sometimes, they are only paid once the fish is sold, or not paid because they are relatives of the fish smokers.   |
| Net menders  |   |  |
| Making and mending nets of different sizes and shapes for different boats.   | There are over 30 net menders in the community who are all men with skills in net-mending. Since nets have changed from traditional spun nets to industrial netting, women are 'no longer interested' in working in net mending | Net-menders are hired by boat owners to make or mend nets. When new nets are to be made, the boat owners provide the materials (lengths of netting). They pay the net menders for their work. If the boat owners have a very big catch they may give the net menders a bonus of LE 100,000-200,000 'just to keep us close and to be flexible with them when the nets need maintenance or repairs'. |
| Retailers  |   |  |
| There are different types of fish sellers, including raw fish sellers (fish mongers) and wholesalers. Fish mongers also wash and prepare the fish for sale.  | Raw fish sellers are mainly women. Most of them are uneducated and have dropped out of school. They often come from fishers' families.  | Fish mongers and wholesalers buy fish directly from agents or from fish smokers to sell directly to consumers. When they sell in markets they have to pay market dues for a pitch/site.  |

### *Formal and informal governance*

There are a number of governance processes which affect those relying on fishing as a livelihood in Portee-Rokupa which are worthy of discussion.

In Sierra Leone, the Ministry of Fisheries and Marine Resources has sole jurisdiction over managing and conserving fishery resources. The Department of Fisheries was established in the Ministry of Agriculture in 1988 as a result of the enactment of the Fisheries Management and Development Act No.4 of 1994, which is complemented by the 1995 Fisheries Regulations.

However, these acts and regulations address very little regarding artisanal marine fisheries and inland fisheries. The management and development of the artisanal fishery sector in Sierra Leone was devolved to local councils under the 2004 Local Government Act. The Act gave a specific mandate to local councils for licensing artisanal fishing canoes (Kru canoe, Std 1-3, and 3-5) which fall within the category of artisanal fishing crafts according to the latest reclassification of fishing vessels, and the use of the economic rent to develop their communities in complementing government support for local development. Under the Local Government Act 2004, the Standard 5-10 and Ghana boats were classified as semi-industrial fishing crafts and managing these boats remains the responsibility of the central Government through the Ministry of Fisheries and Marine Resources (LGA, 2004). Under the supervision of the Ministry of Fisheries and Marine Resources, Local Councils work closely with the two officially recognised fishermen's associations (SLAFU and SLAAFU) in awarding licences and act together to foster responsible fishing. These unions have been instrumental in enforcing fishing gear regulations and mitigating the high rate of fishing of juvenile fish stock.

The Director of Fisheries has monitoring, control, surveillance and enforcement capabilities, including the power to board and inspect vessels . The fines and penalties collected for violations of the fishery laws help fund this work . Violations of fishery regulations result in fines of USD 5,000 for foreign vessels or foreign citizens and USD 1,000 for local fishing vessels or Sierra Leonean citizens . Besides these efforts, there are also local bylaws on fishing administered by many communities. In most cases, fisher folks adhere to these rules. In the event of a violation, the relevant chiefdom authorities impose severe penalties.

Our interviewees confirmed the impact of these initiatives to govern artisanal fishing in Portee-Rokupa. The main formal governance initiatives that respondents mentioned as affecting their work were the requirement to take fine nets (which caught juvenile fish) out of use from 2008/2009, and the requirement for fishing teams to use safety gear (life jackets, manifests, etc.) in 2011/2012. Also mentioned was the designation of a bay area near Portee-Rokupa as a marine reserve (where no fishing can be done) for fish breeding since 2013. There was less evidence that the requirement to provide and wear safety gear is being implemented (and this was not something that boat owners mentioned as one of their responsibilities vis-à-vis the fishing crews). However, fishermen have adopted the requirement to stop using fine nets. Some boat owners said that they received financial assistance to purchase new nets, but others said that the requirement to purchase new nets meant that they had to interrupt their finishing while they saved to buy new nets.

Net menders also took the prohibition on board. One mender told us, “...we do not mend or build nets used for fishing fingerlings as there is a government ban and community enforcement for such type of fishing since 2008. They believe that if people engage in fishing the fingerlings we are the responsible party knowing that fishing it means there is an available net for it”.

## **Cockle Bay**

Cockle Bay is an informal settlement located along the Aberdeen Creek on the western coast of Freetown 5 km from the city centre.

People settled along the creek and reclaimed the land and population grew during the civil war. Residents began to search for cockles from the creek and, as a result, the community became known as “Cockle Bay” (replacing the original name of Hilet View) in 1998. The settlement is divided into four zones: Jai Mata, Kola Tree, Mafengbeh and Hilet View.

The land is mainly owned by the municipality and at present is home to an estimated 540 households. The settlement is characterised by poor infrastructure and a lack of basic services: only 9 percent of households have access to electricity, there are poor waste management practices and limited healthcare, potable water and sanitation. There is no health facility within the community which necessitates travel to neighbouring communities for health services. The community has one communal toilet block, two primary schools, two communal water collection points, two spring water wells and a host of individual water taps.

Although no extreme weather-related hazard has been reported in this community, its low altitude, poor drainage and weak infrastructure renders several areas and developments at risk of flooding associated with sea level rise, waterborne diseases such as cholera which affected more than 40 residents in 2012, and fires (3 outbreaks between 2009 and 2010 affecting 19 houses mainly caused by candles, cooking stoves and faulty electricity).

Residents are faced with persistent (annual) and long-standing threats of eviction on the basis of both a formal designation of the area as risk prone (mainly due to floods and disease outbreaks), and as an area earmarked for ecological conservation (International Wetland Conservation – Ramsar Site) by the National Protected Area Authority (NPAA). This blanket designation is applied without a systematic analysis of what parts of the settlement can be safe or unsafe for housing. The politics of using risk as a justification for evictions is a major contributor to uncertainty in the community, which increases the vulnerability of the residents. Such threats, and the uncertainty they produce, undermine community collective action to address shared challenges.

Cockle Bay’s economy depends primarily on sand mining, petty trading structured in self-owned micro- and small enterprises within and outside the settlement, fishing and cockle production. In the 1990s-2000s, the main livelihood sector of cockle production/picking decreased considerably due to the overexploitation of mangroves which provide a habitat for the cockles. Today, sand mining is one of the main subsistence livelihoods in the area. This is predominantly a male activity, while cockle production/picking is mainly a female one, although children are also involved.

A number of community based organisations have been established, including the Community Based Disaster Management Committee (CBDMC), groups of the Federation of the Urban and Rural Poor, and a system of Community Health Workers (CHWs). NGOs have a presence in the area, particularly the DFID WASH Consortium, YMCA and Restless Development.

### Sand mining in Cockle Bay

The sand mining sector of Cockle Bay is based on the mining of sand exposed during low tides in the lagoon of Aberdeen Creek. The sand is then transported and sold for use in the building industry across Freetown. Sand mining is one of the main subsistence livelihoods in the settlement, primarily employing young men (with women only involved where sand is collected for household construction use rather than for sale). People from other communities also mine sand in Cockle Bay. Selling sand mined within the Cockle Bay to other communities is prohibited; the NPAA monitors this and informs local authorities of any violations.

Until the end of the 1990s, sand could be accessed close to the Cockle Bay community, so most sand mining was done manually with sand carried on head pans. Now because of over-exploitation, there is less sand available close to the community and there are increasing restrictions on where sand can be mined (with sand miners respecting community restrictions on mining near the tidal football field and the bridge). As a result, sand mining now occurs in more distant sites and sand is transported by boat. As one interviewee explained, carrying sand by head pan: *“...lasted till 2006 when fishermen in the community started using sand to add weight to their boats to avoid drowning, sand miners adopted the practice as a more effective and efficient way of transporting sand to the inland which has become a normal practice for all.”*



Map 4: areal view of Cockle Bay

Over the same period the majority of house construction in Cockle Bay has gradually shifted from pan-bodi (makeshift) housing to concrete construction which has increased the demand for building sand.

| <b>Stages</b>   | <b>Actors</b>   | <b>Processes and relations</b>  |
|---|---|---|
| Sand miners   |   |   |
| Receive orders, fill bags with sand and transport sand by boat to land at high tide | 50 people between 12 - 60, low income earners. Most are men and young men still in school. Women sometimes help their family. | Miners receive orders and dig the soil for sand when the tide is low. It is then left there until a high tide allows collection with a boat. Once on land, they pay labourers to transport sand to the desired location or do the transport themselves. It is sold at LE 3,000 per bag (USD 0.39) to community residents and LE 4,000 (USD 0.52) to outsiders.                            |
| Boat Owners   |   |   |
| Rent their boat out; they also need to buy and maintain their boat.                 | 15-20 boat owners in the community who are mostly men between 30 and 60 years old.  | They rent their boats for LE 20,000 (USD 2.6) per high tide, which allow sand miners to transport sand to the land. Price also depends on the size of the boat and the quantity of sand to be transported. One boat can be rented out 2 or 3 times per day.   |
| Labourers   |   |   |
| Carry loads of sand manually or using wheelbarrows.                                 | 30 labourers between 10 and 30 years old  | Contracted either by the miner or the buyer. They charge LE 500 to transport one bag within the community and up to LE 2,000 outside the community, depending on the distance. For many, it is a part-time occupation they can do before or after going to school. They rent bags from sand miners (100 empty bags for LE 10,000-15,000, USD 1.3-1.95) and sometimes borrow wheelbarrows. |

Table 5: Actors and processes in the Sand Mining sector in Cockle Bay

### *Formal and informal governance issues*

Currently there is no regulatory framework in place for sand mining in Sierra Leone. Before the enactment of the 2004 Local Government Act, sand mining licenses were issued by the Ministry of Lands, Country Planning and the Environment, but this is now the jurisdiction of local councils. Section 20 subsection (d) of the Local Government Act of 2004 makes local councils 'responsible for the development, improvement and management of human settlements and the environment in the locality'. The council must also collect dues and give clearances to sand miners. The protection of the environment, however, is the responsibility of the Ministry of Lands, Country Planning and the Environment and the Environment Protection Agency (EPA). The problem is further complicated by confusion over who has final authority over regulating sand mining. There is limited coordination at the local level among the chief and local council officials regarding granting licenses and clearance to sand miners on a daily basis and they have so far failed to enact regulations to ensure the protection of the environment in these communities.

Over the last 5 years, the Environment Protection Agency of Sierra Leone has engaged communities around the beaches to tackle the issue of illegal and unauthorized sand mining along the coast in the Western Area. According to the EPA, their strategy is to have designated sand collection areas that will be regulated by the relevant authorities and guided by the sand mining guidelines (2014) and the proposed sand mining regulation. The EPA has defined Aberdeen Creek (including Cockle Bay) as a Ramsar site meaning that activities like sand mining should not be encouraged.

While the different levels of legislation and institutional responsibilities for the regulation of sand mining are unclear, those involved in sand mining in Cockle Bay are aware that government agencies are attempting to impose restrictions on their activities. While they say that they respect the community prohibitions on mining near the tidal football field or bridge, the government attempts at regulating mining in Aberdeen Creek do not stop sand mining but are regarded as an additional cost to miners who need to pay off officials. In the words of one interviewee:

*"We also have workers from National Protected Area Authority (NPAA) who stop us from mining sand from the sea because it is believed that it is the reason for high and usual rise in water level and tides, but we most times prevail on them with money and allow us access and free operation."*

### **Cockle Picking in Cockle Bay**

Cockle picking is a livelihood linked with the history of Cockle Bay and is the source of the community's name. In the past, particularly during the civil war, many Cockle Bay residents were involved in cockle picking, which was attractive as an easily accessible source of income for both women and men when there were few alternatives. More recently, as other income generating opportunities (including sand mining) have developed, fewer people have been involved in cockle picking and it is now mainly an activity undertaken by low income women as a survival livelihood or

as a means to supplement other sources of income. The women involved in cockle picking come from Cockle Bay and neighbouring communities (such as Thompson bay, Aberdeen Road, Smart Farm, and Dokorty) as the cockles are an open access resource.

Cockle picking is a seasonal activity, as there is a better supply of cockles during the rainy season. In addition, cockle picking as a trade is vulnerable to environmental changes—for example, interviewees noted that for a period of a couple of years the cockles became bitter and could not be sold, although they were plentiful at the time.

The cockle picking sector in Cockle Bay is not a 'value chain' as the entire process, from picking cockles out of the sand to cleaning, cooking and selling the cockles, is typically done by the same individual women. The entire process was explained succinctly by one of our interviewees:

*“When we go to the sea when there is low tidings, we take off our slippers and start walking around the wharf with our spoon and knife bowing at points where we feel strong or stone like hardness with the sole of our feet, using the knife and spoon to remove it from the soil or sand into the containers we take to the wharf (rubber bucket) until it is full to our satisfaction then we return to our homes for cleaning and processing. When we take it home, we wash it to get rid of the mud on it to make it ready for boiling to certain point that would allow the shell to open for easy removal which takes time and patience to take it off the shell. When we are done taking it off the shell, we wash it and either sell the whole lot to customers or we measure it by milk cup.”*

The cockles are generally sold within the community or in neighbouring areas such as Aberdeen Road Market, Murray Town, Thompson bay, Wilkinson Road and Lumley.

## **Trade in Cockle Bay**

Though we conducted some interviews and focus groups with fish traders and other traders in Cockle Bay because these activities employ a significant number of people in informal settlements, we did not undertake an in-depth study of the full value chain. While fish trading involves both women and men, young and old, it is dominated by young women and children. Women do this activity as seasonal fish traders who change their business when there is little supply. It is a sector with easy entry and no need for capital as fish can be provided by an agent and paid after sales. There is no fishing taking place in the community and thus fish is brought in through agents.

### **5.1.2 The Livelihood Systems: Patterns and Themes**

The sectors investigated in the four settlements presented fairly structured value chains with a complex organisation of relationships that have developed over many years and have evolved over time, often driven by the growth and expansion of the city. The actors in various chains have created their own mechanisms of cooperation, which are made possible by the high level of trust between actors who have worked in the chain for long periods of time. Such cooperation mechanisms allow the actors to fulfill larger orders, cope with difficult times of oversupply when prices collapse and ill health. The one exception in terms of these characteristic is cockle picking. Although this is a

widespread activity among poor women in Cockle Bay, it is mostly undertaken on an individual basis, with the same person normally doing the entire process of extraction, production and sales. As such, it cannot be characterised as a 'value chain' and does not require the same structured relations of cooperation, trust or exchange of labour as the other sectors.

All of the livelihoods systems are labour intensive. The technology of production generally prioritises the use of labour rather than substituting it with capital-intensive productive processes. This onerous work, according to many of our interviewees, maximises employment, offering a fundamental social function that supports the wellbeing of an expanding urban population.

Some stages of these value chains are 'open' (based on common property resources with relatively open access) and entry into the sector (based on fairly limited tools and skills) is easy. As one stone quarrier in Moyiba observed:

*"Everybody is free to use the quarry. You only need to declare yourself to the existing members and they will willingly indoctrinate you".*

This means that a wide range of people can engage in these productive activities as a coping mechanism. However, competition is high and thus income levels are low, with many participants only earning enough to subsist.

Both women and men (as well as, in some cases, boys and girls) participate actively in livelihoods systems in the four case study settlements, but some of the systems are largely sex specific. Men do not engage in cockle picking, for example, and women only engage in sand mining for household consumption, but do not sell the sand). Furthermore, in the livelihood systems which involve both women and men overall (fishing and quarrying), many stages are characterised by a clear gendered division of labour. Women tend to work in stages of the sector where they can combine reproductive and productive work, but these are also the lowest paid and have little power in the system. When women do have power in livelihood systems—for example where they play key brokering roles—they tend to be women whose male family members (husbands or fathers) also have important roles in the system as in when the wife of a boat owner is a prominent fish agent. Age is also important as younger women do not generally have a powerful position in a livelihood system, and often work in lowest stages due to school dropout linked to teenage pregnancy.

The rationale given by actors in the chain for sex segregation is often in terms of physical strength. But often the less profitable sectors, or less profitable stages of the chain of mixed sex sectors, are dominated by women, suggesting that men have more options to move to more profitable activities. For example, in a focus group discussion in Cockle Bay, a participant, talking about the exclusively female sector of cockle-picking, explained:

*"Formerly it involved men as well as women who solely depended on it for the daily sustenance of their families, but as time went by (just after the civil war) people started diversifying their livelihoods*

*options... Men are more involved in sand mining because it provide better income to cockle, hence they lack the patience of processing it considering what they earn from the sand.”*

Analysing the livelihoods system we can identify three broad types of roles. We have categorised these as labourers, brokers, and investors:

- By **Labourers** we refer to those involved in sectors that rely largely on their physical labour (in terms of production, processing or transport of produce), and do not need significant financial capital, tools, or skills. Labouring jobs therefore have limited barriers to entry. Women labourers tend to be in lower paid stages of value chains.
- By **Brokers** we refer to those who are mainly involved in managing transactions of exchange of goods and services in the sectors. Brokers tend to have some limited financial capital, but of greater importance is the strong social relations and trust they have earned through long presence in the sector. As noted earlier, women play these roles when family members occupy other important positions in the livelihood system, while men often built their position over time, consolidating savings and networks after entering as labourers.
- By **Investors** we refer to those working in the sectors who need to make significant investment (in physical capital such as boats, or financial investments, for example in hiring trucks) and who frequently employ other workers (labourers). Working in this role requires significant financial capital as well as strong social and political capital. Most investors were men

|                        | <b>Labourers</b>  | <b>Brokers</b>  | <b>Investors</b>  |
|------------------------|---|---|---|
| <b>Groups</b>          | Stone breakers, stone extractors, cockle pickers, fish sellers, fishermen   | Fish agents, petty buyers   | Boat owners, contractors  |
| <b>Assets required</b> | Human capital, and very limited physical capital required, means easy of entry  | Limited capital, strong social relations and trust, long experience of the sector                                 | Significant financial or physical capital, as well as strong social and political capital |
| <b>Gender</b>          | Men: mostly in labour requiring some skills or physical strength<br>Women: unskilled lower paid stages of the value chain | Women: often family members of men occupying a capital based position<br>Men: often built their position overtime | Mostly men  |

Table 6: Types of roles in the livelihood sectors analysed

Finally, all of the livelihoods chains that we analysed are based on the exploitation of finite natural resources which are already under stress because of increased demand due to city growth. As pointed out in one interview:

*“There used to be a lot of available and accessible stones in Dwazarck but due to huge quest for land in the city, people have become more attracted to the mountainous areas like Dwazarck which have affected our mining activities”.*

As a result, these livelihoods systems have little room for expansion, or, with the possible exception of fishing, the ability to provide livelihoods for the growing populations of the case study settlements.

## **5.2 Livelihood strategies: Patterns and themes**

### **Individual strategies**

Though the livelihood strategies that individual women and men working in the sectors pursued were diverse, a number of patterns emerged during the research.

Typical reasons for taking up labouring work such as stone breaking, sand collecting, or cockle picking included changes in personal circumstance such as the death of a parent(s) or dropping out of school. Amongst women, becoming pregnant as a teenager was closely connected to dropping out of school.

*“I dropped out of school due to teenage pregnancy with no source of income to support myself and my child hence with my experience as a child in cockle production I decided to make it my source of livelihood since there is free access to the cockle at the wharf.” (W, 21, Interview, Cockle Bay).*

For many women, the reduction of partner’s income was also a reason to enter the sector. Men entered some livelihood activities because their business failed or was not profitable enough, or they needed income to supplement other activities such as working as a security guard. Labouring work was a livelihood of last resort, which people joined in a moment of crisis. In most cases, women and men had a friend or a relative already working in the sector.

In addition to changes in personal circumstances, another common theme was recourse to labouring work as a response to contextual changes resulting in the destruction of their existing livelihood activities. For example, in the case of Dwazark:

*“Most of the women were selling at Abacha Street but because the police chased them from the street so they decided to join us in the quarrying” (Dwazark, focus group discussion).*

Women and men stated different aims for their livelihood strategies. Women often sought to secure an income to cope or subsist if they were single or to complement the income of their partners. In contrast, most men spoke of using their livelihoods as a route to complete their studies or open a business. There was also an element of age: older men with family responsibilities mainly focused on providing for other family members through their work.

What is important to emphasise, therefore, is that young men often worked in the sector to invest in their assets to strengthen their livelihoods, specifically their education or financial capital. As one interviewee explained:

*“I was a tiler from Signal Hill but could not afford to buy tools for my work in construction as a tiler so I joined my friend here in Cockle Bay in sand mining to be able to buy tools for tiling” (FGD Cockle Bay sand mining).*

Women did not express the same type of investment plans intended to lead to a better livelihood. The table below summarises why people joined a livelihood sector and what they hoped to get from it.

| Sex   | Why they joined the sector   | Their aims  |
|-------|--|---|
| Women | Teenage pregnancy, death of parent(s), school dropout, loss of partner, reduced partner’s income, destruction of their other activities.             | Income to cope if single or additional income if partner works  |
| Men   | School dropout, death of parent(s), failure of business/ not making enough money, or complementing income of other activities such as security guard | Saving to finish studies or open a commercial business.<br>If family responsibilities: provide for other family members |

Table 7: Reasons for joining a livelihood sector

### *Insecurity of livelihoods*

A range of factors contribute to the insecurity of these livelihoods and inform individual and households coping strategies. Most of the value chains analysed have an element of seasonality. For example, demand for stones collapses during the rainy season as construction work in the city stops, plus extraction is more difficult. Fish stocks and weather conditions also affect the fishing chain, with periods of oversupply which strongly affect the weaker sellers.

Environmental changes may additionally affect the security of livelihoods in the different sectors. Increased competition, sometimes linked with people moving from other no longer viable sectors, is also an important factor. Regulations may have a huge impact on the sector as in when changes in net sizes permitted enacted to protect the sustainability of the fish stock affected women and men working across the fisheries value chain in Portee-Rokupa because many boat owners could not afford new nets. Competition is another factor that can lead to insecurity, particularly in parts of the sectors to which there are few barriers to entry. Competition increases at particular moments when other opportunities close and people crowd into specific livelihood sectors, or at times of low demand/oversupply. The lack of a predictable income linked to the subsistence or hand-to-mouth nature of the livelihood further increases the impact of insecurity.

People cope with this high level of insecurity by engaging in multiple simultaneous activities or through systems of mutual social protection: saving groups (horizontal), and advances from brokers (vertical). Some of the issues that generate insecurity at the individual/household level may have a wider impact at the settlement and city scales.

### **City level and settlement scale**

As discussed above, the livelihood sectors analysed in this study are labour intensive and able to sustain a large number of people. These sectors are organised in value chains able to operate with little cash due to consolidated relationships of trust developed over a long period of time. For example, as one interviewee in Portee-Rokupa explained, without fish agents being given produce in advance of sales, the chain would stop:

*“We all know that trading can never be possible without access to finance and most of the women involved in fish trading do not have money to start up such trades”.*

On the other hand, petty buyers in Moyiba were able to advance money to stone extractors and stone brokers to initiate production but also to face difficult periods. In exchange, they asked for loyalty. This meant that women at quarter stage sold stone to petty buyers at a cheaper price than to direct customers, allowing petty buyers to have a profit margin and remain in the chain.

At the level of the settlement or the city it becomes possible to understand how urban processes and issues may present opportunities or threats, thus shaping the context to which broader livelihood

strategies respond. These processes interact and are often better understood together. For example, environmental changes in urban areas are often a result of population growth, and governance interventions are deployed in response to environmental changes. Key interlinked city scale processes identified during our research included: environmental change/natural resource use, population growth, governance interventions (evictions, sector regulations), the absence of state social protection, and mobility.

As populations grow, the demand for goods increases. For example, fish from Portee-Rokupa was increasingly sold within the city and the growth in demand stimulated a growth of the sector and its more complex organisation. Likewise, the growth of the city increased the construction industry's demand for stones. At the same time, population growth in Dwarzark created competition over land use for housing versus stone extraction.

The way in which the livelihood sectors organise themselves also depends on the costs and constraints on mobility. With high costs of public transport and low profit margins, people working as labourers in the sectors explored in this study work very close to where they live.

Governance systems attempted to respond to these factors, but may have undermined the sectors in the process. Chen (2012) noted that some strategies of formalisation impose the costs of formality without extending its benefits (e.g. labour protection, provision of supporting infrastructure, or management of scarce environmental resources). In the case of sand mining in Cockle Bay, miners claimed that they continued to mine despite NPAA restrictions and simply paid off enforcement officials. This imposed a cost on the livelihoods of low income workers who did not have an alternative livelihood option. With regards to fishing in Portee-Rokupa, the benefits of regulation of the sector appear clearer and better accepted by those working in the sector. In this case regulation focused on protecting marine resources and on the health and safety of workers, with state authorities covering some of the costs of compliance. While interviewees highlighted the costs of formalisation, they were nonetheless committed to its benefits.

Without external governance, articulated systems were established within the settlement: *"We do not have licenses to operate as stone contractors but we do have laws guiding our operations in the quarry as contractors which are enforced through our association. [...] The fees from the fines are used for road maintenance, building of toilets and construction of drainage."*

Small-scale saving groups are often the only form of self-support for people involved in these sectors and they help to build trust which improves the overall functioning of the sectors: *"Osusu (saving group) is the only strong bond that brings the women together as we do not have any association used to bring us together"* (FGD traders Cockle Bay).

Given the processes of changes mentioned above, local NGOs could work together with the people working in the sectors and with the state to identify ways of supporting the adaptation of livelihoods and sectors that are required to thrive in changing contexts.

## 5.3 Livelihoods outcomes

### Individual and household

The most obvious outcome of urban livelihoods is the material aspect of income, even though in the sectors explored income is insecure and fluctuating. There also appear to be large inequalities between the earnings of labourers, brokers and investors.

One challenge we noted in our research was the difficulty of those involved in the sectors to clearly account for or articulate their earnings. The fluctuating and seasonal nature of earnings meant that respondents' estimates of monthly earnings may not have reflected overall annual averages, but estimates of earnings do not factor in costs, thus often expressing gross revenues.

However, while it is not possible to capture an accurate picture of earnings, women tend to work in less profitable sectors (e.g. cockle picking) or activities in the chains, with the result that they earn less than men do. For example, in terms of self-reported earnings in the labouring stages of the stone quarrying chain, women's income on average was about 40 percent less than men's. In households composed of a heterosexual couple, women's income was often seen as supplementing the man's:

*"The family finds it difficult to cope with only one financial source of income from the father hence the women tend to join trades that can attend to the immediate needs of the family"* (FGD, Fish Traders, Cockle Bay).

Some actors sought to accumulate different forms of capital. Even in the labouring parts of the systems, some mostly male workers were able to save and **invest** in education, tools, housing and land, among others. However, for others, mostly women, their work only contributed to their own and their families' daily consumption and survival. In the absence of state social protection, these livelihoods represented a crucial last resort for many households living in informal settlements.

Another outcome of livelihoods was its contribution to women and men's social standing. Many interviewees highlighted the status that comes from working. Men tended to focus on their status *in the community*:

*"I have earned much respect from my community and family because I don't beg for my living. My engagement also prevents me from engaging in crime."*

*"Fish laying has earned me respect because I earn on my own which has taken me from the class of thieves to a responsible and determined young man".*

Women on the other hand focused more on their status in the household:

*"My husband now take me serious and treats me with high respect because of my contribution to sustenance of the home."*

*“It has helped me position and maintain my space well in my marriage as my husband sees me as a productive woman”.*

At the same time, however, while interviewees noted that working gives them a status, the particular types of work in some of the livelihood systems were linked to low status:

*“Though some respect me but there are other community members who look low upon me as they see stone breaking as a very minor and poor job”.*

One consistently reported negative outcome of the work in the livelihood sectors researched was the negative health impacts of the hard and dangerous forms of work, particularly in stone quarrying:

*“It has made my ulcer worst due to the hard job with starvation, thickens my palm, has given me eye problem due to fragment of the stone, severe headache and cough due to the dust that comes from the blasting and granite”*

*“This job has serious effect on my health ranging from bodily pain, frequent headache, backache, waist and joint pains which was never the case with my health”*

*“I get body pain from the work I do. Also get blisters on my palm and wounds on my body. At a certain time, I got severe injury on my left finger which nearly cuts off and lead me home for four months.”*

*“The work I do is physically demanding which gives me too much bodily pain from doing it and that get me addicted to drugs because I have to take drugs every day to kill the pains.”*

Another factor that affects both women and men’s well-being and the strategies and scope that they have to engage in livelihoods, is the relationship between livelihoods and time use.

Drawing on the data derived from the daily time use research tools, we divided the reported time uses into generic categories which we grouped broadly into the two overarching categories of ‘work’ and ‘personal time’. By ‘work’ we broadly meant activities that are critical for the wellbeing or support of the households or communities of those involved – as such work includes “both paid and unpaid economic work as defined within the narrow production boundary of the SNA and unpaid care work (housework, care for people)” (Esquivel et al, 2008; 111). In contrast ‘personal time’ relates to time spent on activities which ICATUS (the International Classification of Activities for Time-use Statistics) defines as ‘non-productive’, which are conducted because they are fulfilling for, or enhance the well-being of, the individual engaging in these activities, and understood to be or discretionary (i.e. uses of ‘free’ time), rather than being seen as a responsibility. This distinction is ambiguous in practice since many people find their work fulfilling or may use the livelihoods generated only for their individual needs rather than to support others. Plus, not all of the activities that we characterised as ‘personal time’ are necessarily discretionary. However this distinction helps to draw a distinction between time uses which can broadly be characterised as work or responsibilities to others versus the use of free time for personal well-being.

| <b>Work</b>          |  |
|----------------------|--|
| Reproduction         | Activities associated with care of the household and other household members   |
| Production           | Livelihood activities to generate income or for payment in kind, including unpaid work contributing to household enterprises |
| Community Management | Voluntary, unpaid work on community projects   |
| Politics             | Participation in decision-making structures at the community of city scale.  |
| Travel               |  |
| <b>Personal time</b> |  |
| Sleep                |  |
| Leisure              |  |
| Personal care        |  |
| Religious activities |  |

Table 8: Categories of work and personal time

### Female Vs Male total work average

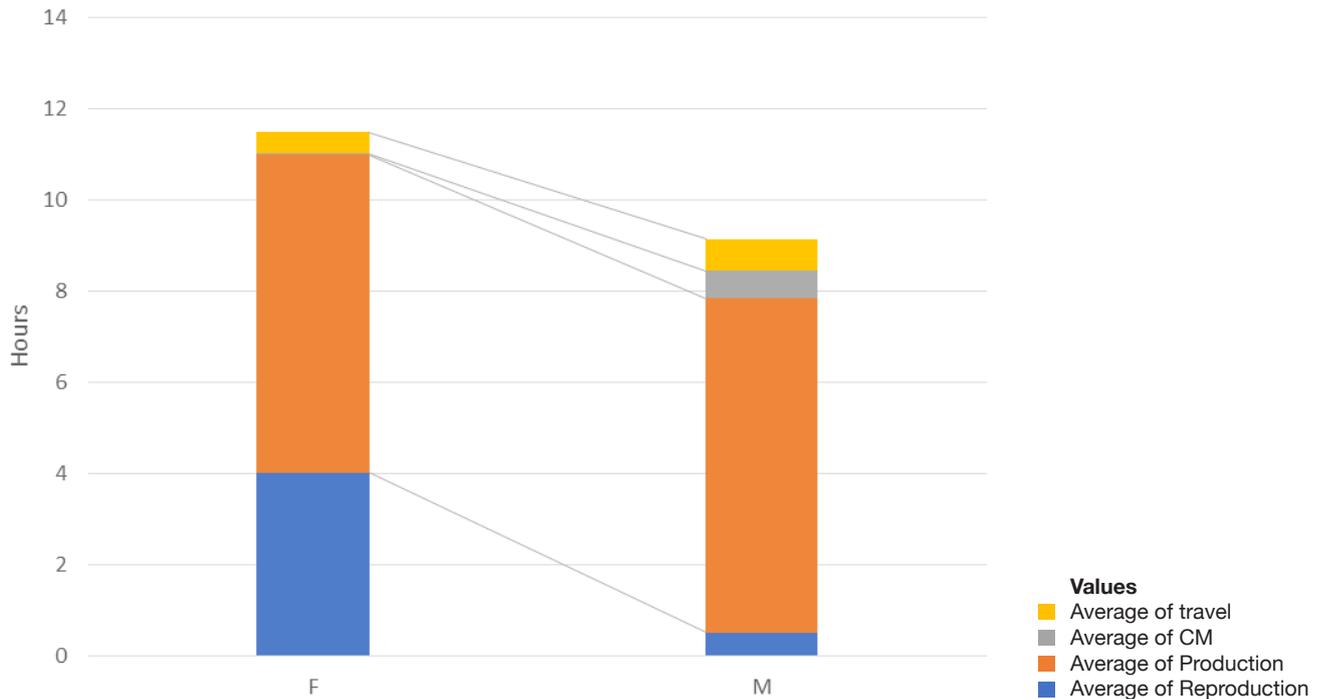


Figure 9: Average daily work hours by gender

Looking at the average time uses across the forty-nine research respondents who participated in the daily activities interview, a clear pattern emerges that differentiates women and men. In terms of time spent on activities which we grouped under the heading of ‘work’, both women and men averaged about the same amount of time working on production (livelihoods and income generation): around 7 hours per day. However, women spent significantly more time on reproduction (care work in the household)—around 4 hours per day—as opposed to men who spent on average around half an hour a day on reproductive activities and therefore had a significantly longer working day (see figure 9).

### Female Vs Male total personal time average

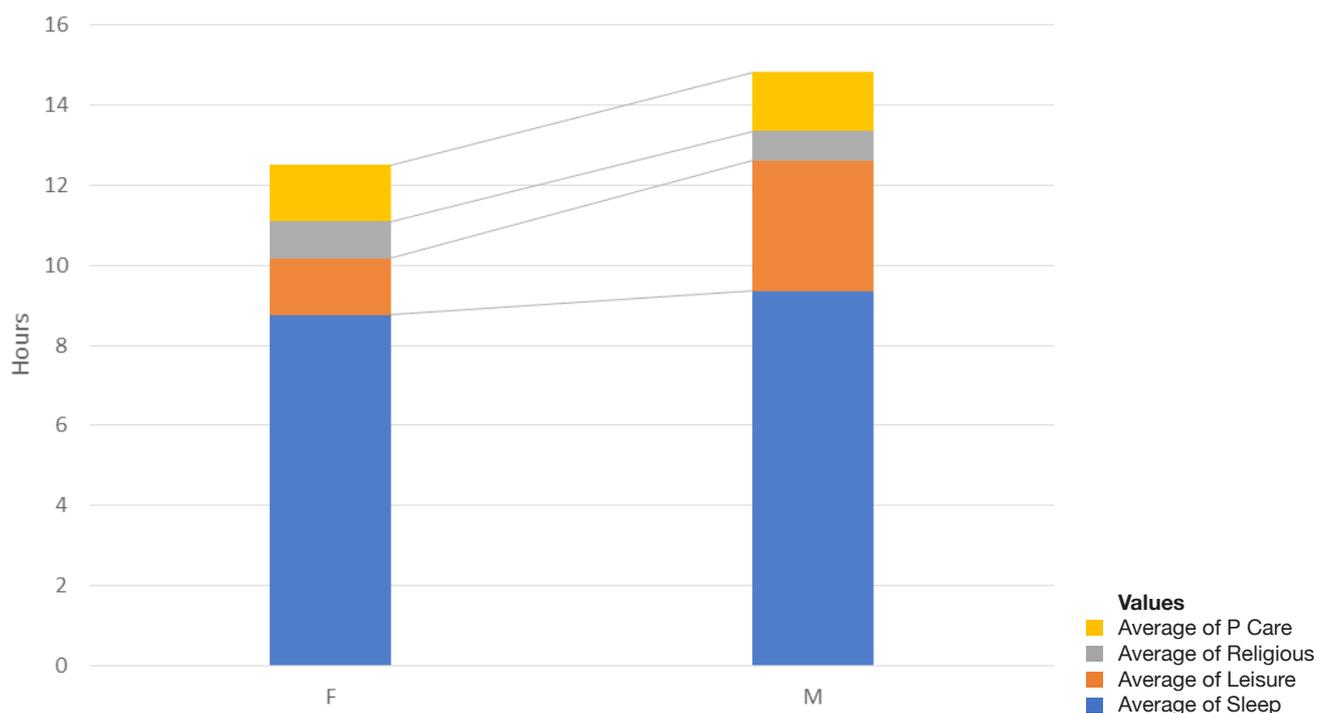


Figure 10: Average daily personal time by gender

Looking into the individual time use survey data, which is not reflected by these aggregated figures, we can see that the time burden imposed by reproductive work also has an age component. Young women in their early twenties spent far longer caring for their households, such that in practice it often became their primary working activity. A 24-year old cockle picker, for example, spent 10.5 hours per day on reproduction, and a 20-year old fish layer spent eight and half hours per day, on reproduction. In contrast the three oldest women in our study (46, 50 and 50 years old) reported spending no time on reproductive activities.

One issue that the time use survey data does not reflect activities undertaken at the same time, for example, those respondents who conduct productive income generating, or leisure, activities at the same time as reproductive activities such as child care.

In addition the focus on a specific day to extrapolate average daily time uses means that activities that do not happen on a daily basis and happen outside of working hours are underreported, perhaps explaining some of the time uses that were not reported by the respondents. For example, none of

the interviewees reported spending any time on political activities or education, despite the fact many respondents told us in other interviews that they were involved in both of these activities. Similarly, focusing on one specific day may have distorted some of the activities undertaken on a daily basis since the amount of time spent on an activity may vary greatly on a given day. For example, some fishermen in Portee-Rokupa reported spending very long periods on productive activities (one reporting 15.5 hours in a working day), but this must be understood in the context of fishermen not going to sea every day, and often working long hours (and even sleeping on the boat) when they do. On the other hand, some of our respondents, particularly the labourers, do not find work every day, such that one sand miner we interviewed reported working on production for zero hours and another for one hour, while another had worked for over seven hours.

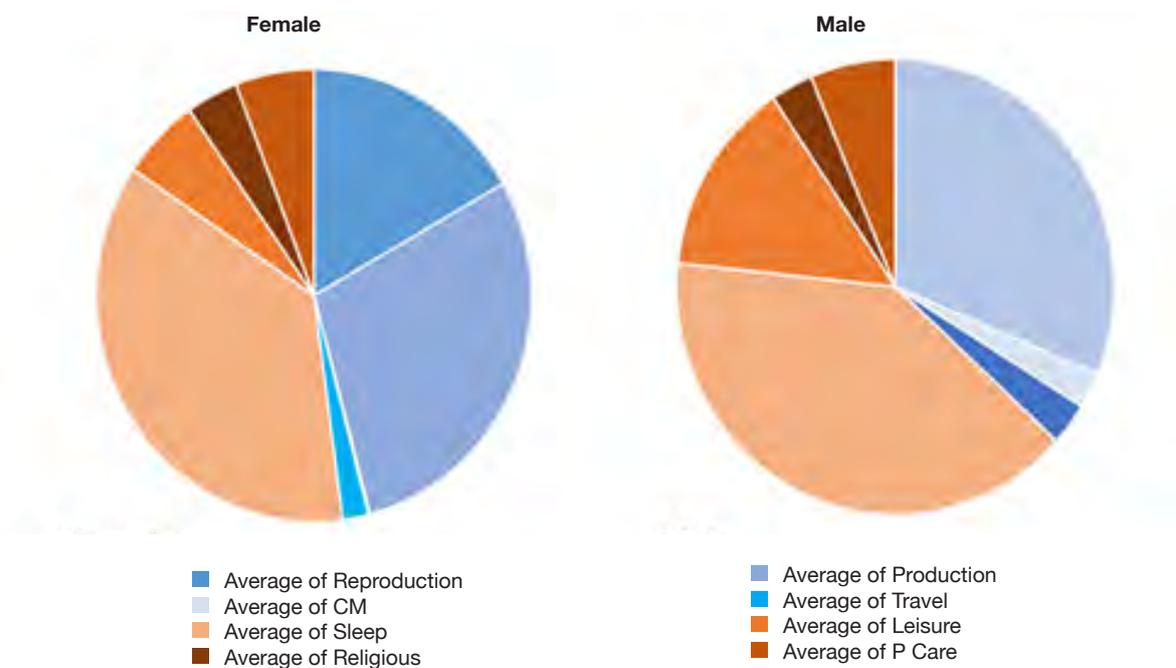


Figure 11: Average of women and men's daily time spent on work vs personal time

As shown in Figure 11, there is a corresponding difference between the amount of time women and men spend on what we have defined as 'work' and 'personal time'. While the women and men involved in the study spend a similar amount of time on sleep and personal care, women spend about a third of the time that men do on leisure activities

## Settlement level

At the settlement level, the livelihood systems that we studied appear to strengthen systems of trust and reciprocity within the community by establishing multiple relationships of interdependence between different actors in the value chains. These include trust relationships linked to the core functions of the chain like exchanging goods and services on credit. As one stone contractor in Moyiba explained:

*“Honesty is one thing that flows between us and the petty buyers, load men, drivers and that of the customers because where there is no money people bank on our integrity as honest people to entrust their monies in our hands which is usually the case. 70 percent no money for transactions and 30 percent available money for transaction”.*

Relationships of reciprocity and trust also extend to wider relationships of social support beyond the value chain functions. A fish agent in Portee-Rokupa explained:

*“We have a club as fish agent that is used to seek our welfare. We also give financial assistance to our members who are not very strong like the others through loans”.*

In addition, workers frequently reported relationships with community members that went beyond financial arrangements to encompass wider solidarity and the interests of community development. For example, one sand miner explained that sand miners charge LE 3,000 for a bag of sand to residents of Cockle Bay, as opposed to LE 4,000 to outsiders, because:

*“...those who reside in the community are contributing to the development of the community by changing the structures to a more secured and permanent structures that change the face of the community, which reduces the threat to eviction”*

In addition to the relationships of support between different actors in livelihood systems are the formal and informal associations that regulate the sectors, which also provide the basis for the informal regulation of social interactions in the settlements. For example, those involved in stone quarrying in Dwarzark said that they were bound by community laws and subject to penalties in the form of fines paid to the chief. These community laws included those related to the sector, such as the prohibition on street mining of stones, and the regulation of behaviour more broadly like the prohibition on fighting and abusive language. A contractor in Moyiba told that workers were fined for fighting or using abusive language. The money collected was used for road improvement projects in the community. In Portee-Rokupa, those involved in fishing were guided by industry related community laws (e.g where to tie up boats) and may also be fined for generally ‘disorderly behaviour’.

Most of the livelihood sectors researched were also linked to the history and sense of identity of each community. For example, the development of fishing in Portee-Rokupa or stone mining in Moyiba is intrinsically connected with the development of the area.

However, particularly with regards to stone mining, the use of natural resources competes with pressure on the land resulting from growing populations, potentially causing hazards and conflicts over whether land should be used by the livelihood sector or for residential purposes. These tensions are mediated to some extent by local governance structures with complex self-regulation mechanisms.

### **Wider city economy**

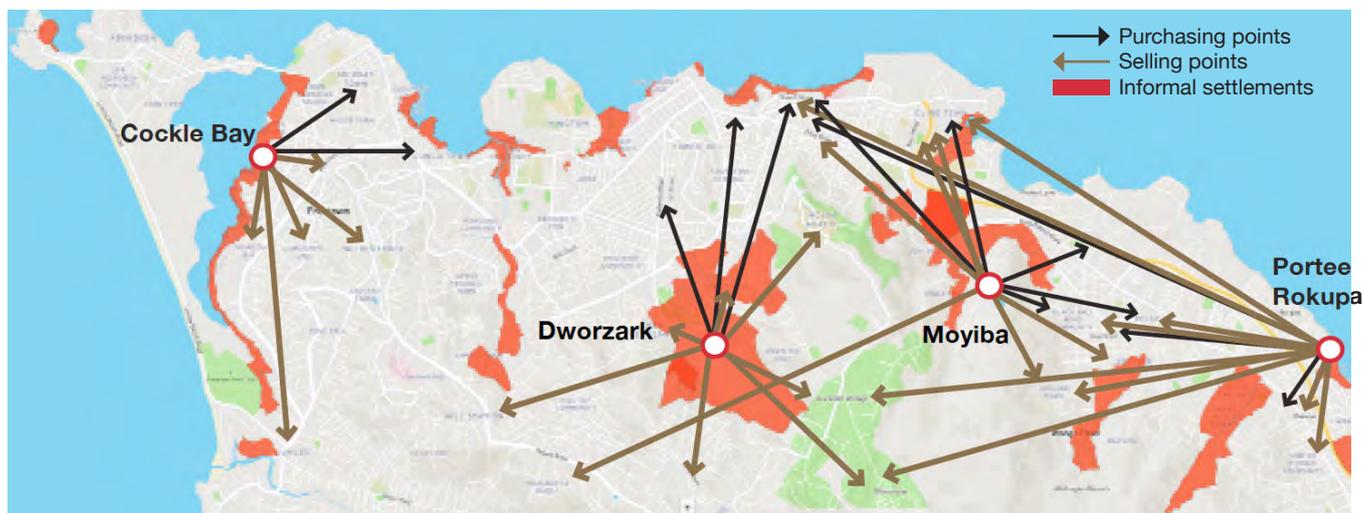
All of the livelihood sectors studied are highly labour intensive and supply important goods to the city. This means that they are able to provide livelihoods to a large number of people using little capital while contributing to key sectors of the city.

Part of the elite aspires to a modernist vision of the city, exemplified for instance by the Mayor's Foreword to the Freetown City Development Plan, which stated that, "My major focus was to transform Freetown into a well planned, modern, dynamic and vibrant metropolis" (FCC, 2015). However, this vision clashes with a reality in which the self-employment sector accounts for nearly 85 percent of the country's workers and the informal sector, especially the informal service sector, is the backbone of Freetown's economy. We conducted a spatial analysis of where the livelihood sectors considered in this study purchase tools and other inputs and where they sell their products. Our findings attest to the strong connection of these sectors with other parts of the city, and thus the connections between the economy of informal settlements and the wider city economy. The analysis shows, for instance, the importance of stone supply to the construction industry and the how the fish supply wider parts of the city. In the pilot study, several stakeholders across the city analysed the role of the services and products provided by those living in informal settlements to formal economic activities. The study concluded that formal economic activities and the workers they employed would not be able to perform without the supporting services provided by workers in the informal sector. These services ranged from transport to lunch, trading, housekeeping and childcare. This indicates that even the most formal sectors are dependent on more informal activities.

The context section above explained the importance of social protection and the very limited scope of existing programmes. In this light, the least profitable livelihoods provided by the sectors analysed function as social protection systems of last resort due to their relative ease of access. Moreover, they

play a key role in maintaining social cohesion within the city. They employ large numbers of young people who might not have many other alternatives, offering them a coping strategy and positive socialisation and mitigating the potentially critical impact of large youth unemployment, which in some contexts may increase urban violence and conflict (Finn and Oldfield, 2015). Some young men work in these sectors to pay for their school fees which means that their individual investments also contribute to improve the city's human capital, bridging the gaps in public funding of education. These livelihood sectors may have some negative localised environmental impacts. However, regulations that jeopardise people's ability to work and earn without offering a replacement livelihood may be risky. This may especially be the case in the context of the important role livelihoods play as a coping mechanism and central activity in specific settlements.

The map that follows shows where livelihood sectors purchase their inputs and sell their products.



Map 5: Relationships between livelihood sectors of informal settlement residents and the city

## 6.0 Conclusion and Recommendations

The livelihood activities of informal settlement residents make an important contribution to the settlements and the wider city. The sectors analysed in this research provide livelihoods to a large number of people and contribute to other key sectors of the city economy, while operating with limited capital. In stone quarrying, 70 percent of stone transactions take place without money being exchanged immediately, meaning that such sectors are built on trust relationships cultivated over long periods of time and on informal institutions. In a fragile and cash-scarce city economy, the sectors that develop in informal settlements where a large part of the population resides are key to the overall economy, cohesion and wellbeing. Moreover, these informal institutions regulate local economic activities by filling a governance gap left by city and central government authorities. These sectors function as an employment of last resort open to most people and have mechanisms of mutual assistance. Therefore, they help compensate for the lack of social protection services from the state. That said, some of these livelihood sectors contribute to environmental degradation and workers may be subject to exploitative conditions. They also have little potential for expansion due to their dependency on limited natural resources.

Any disruption due to evictions, relocations or major regulatory changes may affect the supply of key goods to the city and cut the livelihoods and social protection to a large number of people. Therefore, labour intensive livelihood alternatives must be put in place before pushing people away from livelihoods that are not sustainable in the long term. Otherwise, there may be increasing unemployment, poverty, and potentially social conflict. The Agenda for Prosperity acknowledges the importance of activities in informal settlements and calls for improving working conditions and social protection, particularly for informal businesses operated by women. It is important that national policy interventions in these sectors carefully consider all stakeholders to ensure the most vulnerable are not adversely affected by proposed changes.

Most NGO support focuses on the individual, often promoting micro-enterprises through capacity building, credit, or equipment. This makes a crucial contribution, but misses strategic settlement and city scale interventions. NGOs could also participate in developing alternative labour intensive sectors that are not reliant on finite natural resources; supporting settlement-scale governance of livelihoods and the use of natural resources; and engaging informal settlements in city-scale economic planning.

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## **Annex 1. Research tool for individual interviews with women and men working at different stage of a value chain.**

1. 24H looking at the previous work day
2. collecting information on other activities not conducted on a daily basis
3. life histories (changes in livelihoods activities, personal circumstances, context)
4. questions on importance of livelihood for well-being outcomes

### **Data Collection Tool: THE DAILY ACTIVITIES OF WOMEN AND MEN**

**Objective:** To identify the various daily tasks of women and men and how they affect their participation in livelihood activities.

**Process:**

1. Record the sex and age of the respondent, location of the household, the income level, and specify the members of the household (including their age and sex) and the date which the timeline describes (specify also day of the week).
2. Speaking to the respondents, ask them to describe all of the different activities that they undertook on their most recent working day (ideally the day before the interview). Ask them to start by specifying what they did when they woke up etc. Record these activities on the chart overleaf.

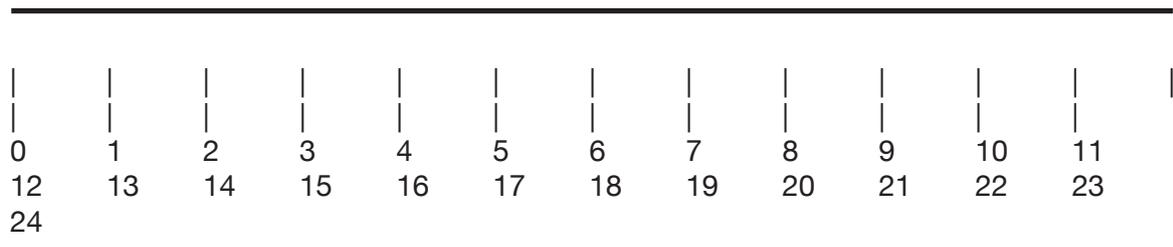
Please note:

- Respondents may do more than one activity concurrently – eg taking care of children while working. In this case record these as overlapping activities.
3. Where these tasks involve other household members or members of the community, specify who. Record this support on the chart.
  4. For each of the activities discuss where it takes places
  5. After you have completed the time line ask the respondent if there are other important activities that they are involved in that they do not do on a normal working day. Specifically ask about any important that they are involved in periodically:
    - Childcare or housework activities
    - Income generating work
    - Unpaid community work
    - Political activities

SEX AND AGE OF RESPONDENT:  
 PLACE OF RESIDENCE:  
 INCOME LEVEL:  
 HOUSEHOLD MEMBERS (Age + Sex):  
 DATE of timeline:

Activities

People supporting the activity



Place

**Other activities not conducted on a daily basis**

Childcare/ housework:

Income generating work

Unpaid community work:

Political activities:

## Data Collection Tool: LIVELIHOOD PERSONAL HISTORY

**Objective:** To explore the factors that have affected women and men's participation in a livelihood sector over the course of their career.

**Process:**

1. Start by asking the respondent's age, sex, place of residence, main livelihoods sector, income level (eg average monthly earnings?), and household members.
2. Ask them to explain when and why they started working in this livelihood sector and what they were doing previously?
3. Working from the start date/ year go along the timeline to define when there were key changes in livelihood activities (e.g. change in livelihood tasks, e.g. from processing to selling, move from employed to self-employed, significant changes in earnings, changes in ownership of productive assets).
4. Above the timeline, record the key changes in personal circumstances that the respondent says has affected their livelihoods activities (e.g. finished school, got married, had children, became ill, moved place of residence).
5. Below the timeline record key contextual changes that the respondent thinks has affected their livelihood activities (e.g. environmental changes or shocks, changes in rules and legislation, changes in in land and property costs, infrastructure provision).

SEX AND AGE OF RESPONDENT:

PLACE OF RESIDENCE:

LIVELIHOOD SECTOR:

INCOME LEVEL:

HOUSEHOLD MEMBERS (Age + Sex):

Why did they choose to work in this sector? What were they doing previously?:

Personal  
circumstances

Livelihoods  
activity

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Context

## **Importance of livelihood for well-being outcomes**

### **1. How does your work in (livelihood sector: e.g. stone quarrying, fishing) affect...**

#### **Health**

Any positive impact?

Any negative impact?

#### **Income**

Any positive impact?

Any negative impact?

What is your income from this livelihood activity?

Was your previous livelihood activity (specify) providing a better or worse income?

Previous livelihood activity:

#### **Social status in the community and family**

Any positive impact?

Any negative impact?

#### **Personal satisfaction/happiness**

Any positive impact?

Any negative impact?

### **2. Are there other things in your life that are affected by your work in (livelihood sector: e.g. stone quarrying, fishing)?**

### **3. Are there other works that would lead to better outcome?**

If so, why are you not doing it?

## **Annex 2. Questionnaire for individual semi-structured interviews with representatives of organisations working on livelihoods in informal settlements**

(e.g. PSPP partners, other NGOs, unions, sector associations, government agencies/departments)

### **Introduction**

1. thank the interviewee and explain the purpose of the research
2. provide an estimate of the interview duration and gain their informed consent

### **Questions**

1. In what livelihoods interventions/activities is your organisation involved (capacity building, credit, organizational development, tools and equipment etc)? why have you choose to provide this type of support?
2. What are your main goals and outcomes for your livelihoods interventions?
3. Which livelihoods sectors does your organisation work in?
4. With which actors of the sector (e.g. fishermen, fish traders, etc.) do you work?
- a. How do you select specific beneficiaries within these groups?
5. What gender issues have you identified in the sector (e.g. women and men involved in different stages of the supply chain or women and men having different assets and opportunities to be active in the sector)? How have you addressed this?
6. What are the main challenges to the livelihoods of the residents of informal settlements?
7. Who is funding your livelihoods activities?
8. What have you learned so far from your livelihoods interventions/activities?
9. What worked well? What did not work as expected?
10. What other interventions would be important to support the livelihoods of those living in Freetown informal settlements?
11. What knowledge did your organisation use to design their livelihoods interventions?
12. What kind of knowledge would you need to support your livelihoods work?





## ABOUT UCL/DPU

The Development Planning Unit, University College London, is an international centre specialising in academic teaching, research, training and consultancy in the field of urban and regional development, with a focus on policy, planning management and design. It is concerned with understanding the multi-faceted and uneven process of contemporary urbanisation, and strengthening more socially just and innovative approaches to policy, planning management and design, especially in the contexts of Africa, Asia, Latin America and the Middle East as well as countries in transition.

The central purpose of the DPU is to strengthen the professional and institutional capacity of governments and non-governmental organisations (NGOs) to deal with the wide range of development issues that are emerging at local, national and global levels. In London, the DPU runs postgraduate programmes of study, including a research degree (MPhil/PhD) programme, six one-year Masters Degree courses and specialist short courses in a range of fields addressing urban and rural development policy, planning, management and design. Overseas, the DPU Training and Advisory Service (TAS) provides training and advisory services to government departments, aid agencies, NGOs and academic institutions. These activities range from short missions to substantial programmes of staff development and institutional capacity building.

The academic staff of the DPU are a multi-disciplinary and multi-national group with extensive and on-going research and professional experience in various fields of urban and international development throughout the world. DPU Associates are a body of professionals who work closely with the Unit both in London and overseas.

Every year the student body embraces more than 45 different nationalities.

To find more about us and the courses we run, please visit our website: [www.bartlett.ucl.ac.uk/dpu](http://www.bartlett.ucl.ac.uk/dpu)

## ABOUT IGDS/NU

The Institute of Geography and Development Studies (IGDS) represents one of the four innovative academic structures of the School of Environmental Sciences at Njala University (NU). The Institute runs both undergraduate and postgraduate programmes as well as provides opportunities for professional development and research. Its main concern is about promoting sustainable forms of development in Sierra Leone. The IGDS has a remarkable experience in the delivery of world leading research and teaching in Geography and development (urban and rural) issues. Its staff have engaged with practitioners, organizations and UN agencies through consultancies and other community outreach activities. It was as a result of the initiative of the IGDS to establish an urban planning unit to further their work on issues affecting people living in informal settlements that the Sierra Leone Urban Research Centre (SLURC) was formed.

## ABOUT SLURC

The Sierra Leone Urban Research Centre (SLURC), based in Freetown, is a globally connected research centre created through a partnership between the Bartlett Development Planning Unit (University College London) and the Institute of Geography and Development Studies (Njala University) with funding by Comic Relief. SLURC aims to strengthen the research and analysis capacities of urban stakeholders in Sierra Leone; make urban knowledge available and accessible to those who need it, prioritizing residents of informal settlements; and, deliver world-leading research in order to influence urban policy and practice.

However, SLURC was established as a financially independent centre within Njala University with a view of further integration in future. It was also thought that the SLURC could become a model of good practices that other part of the university could adopt.

To know more about SLURC, please follow us on Twitter: [@SLURC\\_FT](https://twitter.com/SLURC_FT)

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