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‘Resilience without development’ in a remote rural West African community: the case of Kayima, Sierra Leone

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ABSTRACT

Relatively few longitudinal studies have been undertaken of change and development among rural communities in Africa. Drawing on field-based research conducted over almost five decades, the article examines the shocks and adaptive strategies experienced in the remote rural community of Kayima in north-eastern Sierra Leone. In coping with both external and internal shocks and displaying a remarkable level of resilience, there has however been very little improvement in community livelihoods, and it is suggested that it is a case of ‘resilience without development’. It is likely that the findings of the study could have wider relevance among rural communities elsewhere in Africa.

Keywords – Sierra Leone, Kayima, livelihoods, resilience, development, longitudinal study.

INTRODUCTION

Longitudinal studies of change and development in rural communities are all too rare in Africa. Some of the most notable studies would include Audrey

Richards' (1939) long association with the Bemba people of Zambia; Margaret Haswell's (1977) exploration of social and economic decline in a Gambian village; Michael Mortimore's (1989) work on adaptive behaviour among rural communities in northern Nigeria; Chris De Wet & Michael Whisson's (1997) study of socio-economic change in the Keiskammahoek District of Ciskei, South Africa; Ann Whitehead's (2002) tracking of livelihood change in Ghana; and Mary Tiffen, Michael Mortimore & Francis Gichuki's examination of the relationship between increasing population density, productivity and environmental degradation in Machakos, Kenya, over the period 1930–90 (Tiffen *et al.* 1994). Mortimore & Tiffen's (2004) study of long-term change in dryland development in Kenya, Senegal, Niger and Northern Nigeria is also worthy of note.

In the context of Sierra Leone, only Paul Richards (1985, 1986, 1992), working mainly in the Southern Province, and Tony Binns (1975, 1980, 1982), more recently in conjunction with Roy Maconachie (Binns & Maconachie 2005; Maconachie *et al.* 2006; Maconachie & Binns 2007a, 2007b; Maconachie 2008) and Jerram Bateman (Binns & Bateman 2017; Bateman *et al.* 2017), have taken a long-term approach to understanding livelihoods and development.

This paper seeks to bring together the results of field research undertaken over a period of 47 years in the remote rural community of Kayima, located in Kono District in the far north-east of Sierra Leone. Field research was first undertaken in 1974 and 1978, and then 40 years later in 2014 another detailed study was conducted using similar research methodologies to those used in the 1970s. Since then, regular annual research visits to Kayima have enabled further updating on community upliftment and development in a post-civil war and post-Ebola context. The paper considers the issues which households face and their adopted strategies to ensure survival in such a remote and resource-poor environment. It will first place the study in the broader context of Sierra Leone's history, geography and political economy, before outlining the methods used, and findings from, field research in Kayima.

The paper will show that despite Sierra Leone's eventful history, there has been remarkably little change in Kayima over almost five decades. Whilst most households might be regarded as 'resilient', in being able to survive and supply basic foodstuffs, there continues to be widespread poverty and little evidence of improvement in livelihoods, indicating a case of 'resilience without development'.

VULNERABILITY, RESILIENCE AND DEVELOPMENT WITHIN A LIVELIHOODS APPROACH

There is a substantial literature relating to vulnerability, resilience and development in sub-Saharan Africa. Many of the longitudinal studies identified earlier explore these themes in attempting to understand the complexities of rural livelihoods and the abilities of poor communities to manage human and physical

resources to ensure their survival. But, if we consider ‘development’ as essentially involving ‘positive change over time leading to an improvement in the quality of life’ (Potter *et al.* 2018), these studies reveal variable development outcomes.

The concept of ‘vulnerability’ has its roots in the study of natural hazards and poverty, and has more recently been applied to discussions on the impact of climate change (see, for example, Janssen & Ostrom 2006; Fussel 2007; Adger 2010; Bangura *et al.* 2013; Arnall 2021). While defined in different ways, in a general sense, ‘to be vulnerable is to exist with a likelihood that some kind of crisis may occur that will damage one’s health, life, or the property and resources upon which health and life depend’ (Anderson 1995: 41). In the context of livelihoods approaches, the livelihoods of individuals, households and communities in poverty are inherently vulnerable to stresses, which are pressures typically characterised as continuous, cumulative, predictable and distressing, such as seasonal shortages, rising populations or declining resources; and shocks, which in contrast are generally sudden, unpredictable and traumatic, such as fires, floods, conflict and epidemics (Chambers & Conway 1991).

Where vulnerability is the likelihood and impact of stresses and shocks within a livelihood system, ‘resilience’ is the capacity of a system to experience such stresses and shocks, ‘while retaining essentially the same function, structure, feedbacks, and therefore identity’, and ‘adaptability’ is ‘the capacity of the actors in a system to manage resilience’ (Walker *et al.* 2006: 2). In this sense, vulnerability is generally external, whereas resilience and adaptability are internal (Chambers 1989; Fussel 2007). While these concepts of resilience and adaptability both emerged from, and are well established within, ecological literature, they have increasingly been applied to interactions between ecological and social systems across various scales (Berkes *et al.* 1998). Scoones (2009) argues that the extension of resilience concepts to ‘social-economic-cultural-political systems’ is principally concerned with ‘sustaining “life support systems”’, and the capacity of natural systems to provide for livelihoods into the future, given likely stresses and shocks’ (Scoones 2009: 190). Thus, the integration of resilience and adaptation into understanding livelihoods can contribute a temporal scale to analysis, enabling an informed understanding of the adaptation of livelihood strategies to circumstances that move households towards achieving more resilient livelihood outcomes over time (Sallu *et al.* 2010). The significance of livelihood diversification as a common coping strategy is a recurring theme in studies of vulnerability and resilience, and is a key element in various iterations of the Sustainable Livelihoods Approach (Scoones 1998; Allison & Ellis 2001). In relation to Sierra Leone, Maconachie & Hilson (2018) have examined levels of resilience and diversification among mining communities in eastern Sierra Leone in the aftermath of the Ebola epidemic, suggesting that ‘Sierra Leone’s diamond diggers were surprisingly well-equipped to cope with the shocks and stresses brought about by the (Ebola) epidemic, mostly because of their ability to readily diversify into other areas with very little consequence’ (Maconachie & Hilson 2018: 114).

This research adds to a relatively small pool of longitudinal studies exploring livelihoods in rural African communities, and an even smaller pool of studies undertaken in rural Sierra Leone. One of the key critiques of livelihoods approaches is that they focus on short-term adaptation, rather than ‘systematic transformation due to long-run secular changes’ (Scoones 2009: 189). O’Laughlin (2002), for example, has argued that livelihoods approaches are ahistorical in that they tend to take the current situation as given, rather than identifying the events or forces that led to the existing social institutions, while Bryceson (1999) has argued that the narrow focus on household welfare within livelihoods approaches, and the continued centrality of agriculture to them, means that long-term processes outside of this focus can be missed. Further Reed *et al.* (2013) discuss the inability of livelihoods approaches to capture the dynamism in capital assets over time and argue that livelihoods approaches pay insufficient attention to the often complex long-term ecological consequences of livelihood adaptations.

One of the key contributions of this paper is that it highlights how a longitudinal element can be incorporated within a livelihoods approach, in order to understand long-term change in capital assets, structures and processes, livelihood strategies and livelihood outcomes. In this sense, this research concurs with Hinshelwood (2003), in suggesting the need for more critical flexibility in the way livelihoods approaches are applied, and has contributed to the attainment of such by presenting a methodological and analytical approach aimed at more explicitly drawing out the temporal dynamism of people’s livelihoods.

While wider applicability is not unique to this research, and indeed could be listed as a contribution of almost any case study, the longitudinal nature of this research enhances the significance of such a claim. This research has also made a number of methodological contributions. As noted above, there have been very few longitudinal studies on livelihoods in an African context, so this research contributes to longitudinal methodologies in a broader sense. More specifically, the retrospective application of livelihoods approaches used in this research highlights a particular methodology for incorporating a temporal dimension, and in doing so, provides an empirical embodiment of Murray’s (2002) argument that a longitudinal dimension can be achieved through a retrospective reconstruction of change over time.

Finally, if development is conceptualised as ‘positive change over time’, then an appreciation of the lack of development in Kayima over a long period of time could, in itself, be considered a key contribution of this research. We believe that this research has the potential to enhance our understanding of livelihood systems and long-term processes of continuity and change, not only in Kayima, but also perhaps more widely in Sierra Leone and sub-Saharan Africa.

THE SIERRA LEONE CONTEXT

Sierra Leone is a small West African state (71,740 km²) (Figure 1), bordered by Guinea in the north and north-east and Liberia to the south-east. Sierra Leone

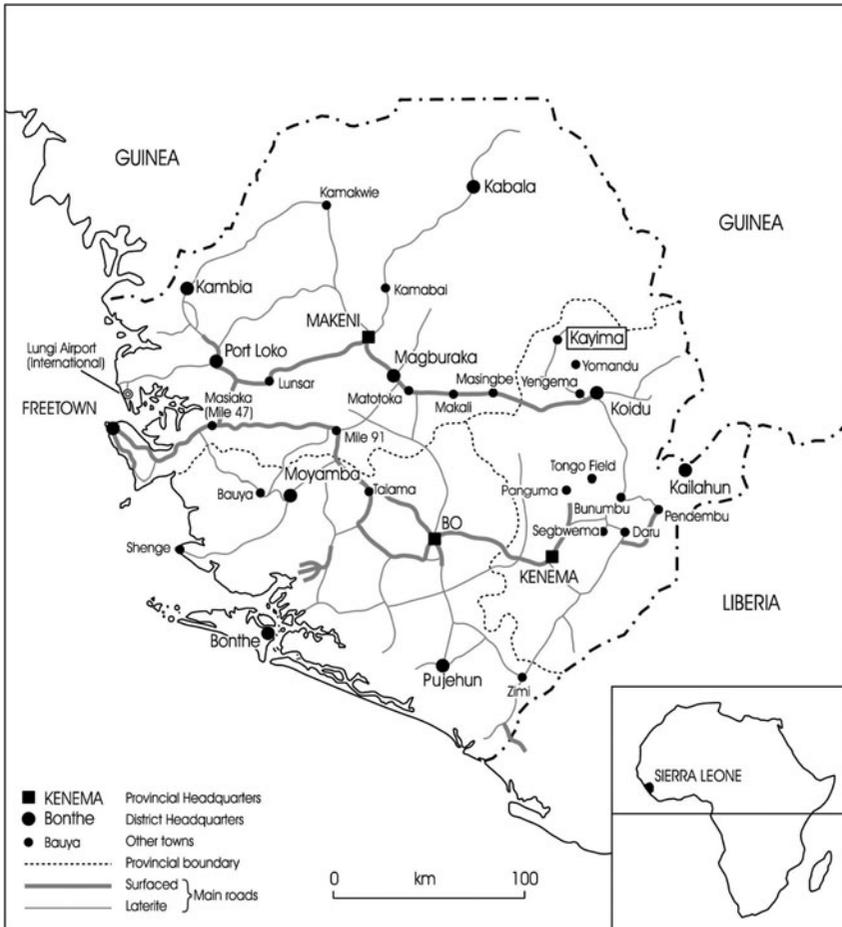


Figure 1. Sierra Leone, Kayima highlighted.

has a population of about 7.9 million, and is one of the world's poorest countries, with a Human Development Index ranking of 181 out of 189 listed countries and average life expectancy of 54.3 years (UNDP 2019). The country was a British colony until 1961. More recently, Sierra Leone experienced a brutal civil war from 1991 until 2002, in which more than 50,000 people were killed, countless others subjected to amputation, rape and assault, and more than half of the population displaced. Many of the so-called 'rebels' were young and disaffected. As Peters comments, 'studies have shown that young ex-combatants considered the war and their participation in it to have been motivated by grievances, rather than greed' (Peters 2011: 130), with chiefs and politicians engaging in corruption and lacking empathy towards younger community members. As a consequence of the war, economic and subsistence activities were severely disrupted, much of the country's infrastructure was destroyed

or badly damaged, and poverty became widespread and deeply engrained (Binns & Maconachie 2005).

Much has been written about development in Sierra Leone in recent years, with the brutal civil war (1991–2002), subsequent post-conflict reconstruction efforts and the Ebola epidemic of 2014–2016 being the main topics of investigation (see for example, Binns & Maconachie 2005; Maconachie & Hilson 2018). Prior to the 1990s, however, Sierra Leone aroused much less interest, and development was predominantly framed in discussions of agriculture and mining, with much of the period characterised by retrospective examinations of the post-colonial/pre-conflict political economy. Binns' work in the 1970s (Binns 1975, 1980, 1982), which provides the baseline for the research upon which this paper is based, examined the interactions between the mining and agricultural sectors, concluding that local food production and marketing systems were changing in response to the demands of an increasing non-farm population. He contextualised his research within two emerging bodies of literature, one which explored the role of government in promoting agricultural change in Sierra Leone, and one which considered the changing impact of diamond mining since diamonds were 'discovered' in the 1930s (Saylor 1967).

The most obvious manifestation of this 'dovetailing' of agriculture and diamond mining was farmers participating in mining activities during the dry season, but other links between the two sectors were also evident in the literature. Local and periodic markets within mining areas, for example, grew rapidly as the mining population increased (Riddell 1974; Binns 1975). Mutti *et al.* (1968) found that the price of basic foodstuffs, such as rice, palm oil and groundnuts, was significantly higher in these markets than elsewhere, including Freetown, which Rosen (1974) argued had seen these crops increasingly cultivated as market crops, rather than simply for subsistence. Improved transport networks, while a product of increased mining production, also aided agriculture as farmers gained better access to more competitive markets in mining areas (Blair 1975).

There was also significant attention paid to the degradation of agricultural land caused by diamond mining, with compensation for farmers and grants to chiefdoms made by the National Diamond Mining Company (NDMC) considered an inadequate solution (Dunba 1977). In terms of agriculture in non-diamond mining areas, mainly in Sierra Leone's Southern Province, the work of Paul Richards was prominent. He discussed the importance of local farmers' knowledge of the environment, and their ability to adapt agricultural practices to changes within the environment, arguing that many of the most successful innovations in food crop production in the fifty years previous had their roots in indigenous adaptation (Richards 1985, 1986).

A related theme during the 1970s and 1980s was the contestation between the government's drive for self-sufficiency in rice production through the expansion of swampland cultivation, and the rationality of farmers, who preferred upland cultivation because of its versatility in providing supplementary crops (Johnny *et al.* 1981; Binns 1982). Following on from Binns (1980), the

interrelationships between mining and agriculture continued to be a strong theme. Binns (1982), for example, discussed the potentially serious impact that the decline in diamond production could have on the agricultural sector, while Zack-Williams (1990) was even more pessimistic, arguing that earlier growth in the mining industry had already led to the demise of agriculture.

SIERRA LEONE POST-INDEPENDENCE

Looking more broadly at Sierra Leone's history since independence in 1961, leadership and policies might best be described as volatile and irrational, and associated with considerable dysfunctionality and corruption. The period was dominated by the 17-year rule of Siaka Stevens (1968–85), whose leadership witnessed considerable economic decline, growing political authoritarianism and the marginalisation of the majority of Sierra Leoneans (Zack-Williams 1999). He transformed an already weak democracy into a one-party state, and in doing so, destroyed or corrupted all agencies of restraint and institutions that could pose a challenge. Stevens' reign also corresponded with the beginning of a long decline in the diamond industry. After his accession to power, diamonds quickly became a key strategic resource for his regime, as he appointed many of his cronies to positions of power and rewarded them with diamond revenues, reducing the industry to a parastatal that was rife with corruption and smuggling (Maconachie 2012). By the time Stevens was succeeded as president in 1985, by his hand-picked successor, Brigadier Joseph Momoh, Sierra Leone's diamond exports had decreased from 1.7 million carats in the 1960s to a mere 50,000 carats (Temple 2006).

On 23 March 1991, the Revolutionary United Front (RUF), led by ex-Sierra Leone army corporal Foday Sankoh, and comprising Sierra Leonean dissidents, loyalists of President Charles Taylor of Liberia and a small group of mercenary fighters from Burkina Faso, entered eastern Sierra Leone at Bomaru in Kailahun District (Abdullah 1998). The RUF promoted a populist ideology of rural resentment against government corruption and exploitation but, in reality, their wrath was felt most harshly by the rural peasantry, the group least responsible for, or able to influence, the actions of those in power (Hirsch 2001). The RUF occupied villages by targeting, and at times killing, local 'big men' such as chiefs, elders, court chairmen and the educated elite, commandeering essential resources such as food, labour and shelter in the process (Silberfein 2004). A number of researchers have referred to the concept of 'elite capture', suggesting that 'chiefs' corrupt and oppressive administrations (which) had driven young people into exile and, in some cases, the embrace of the RUF insurgents' (Fanthorpe & Maconachie 2010: 253). Having entered the country with just a few thousand fighters, the RUF expanded rapidly, through the recruitment of disaffected youth, whose education and employment prospects were bleak under the current regime (Zack-Williams 1999), and were supplemented by the kidnapping of numerous young people (Abdullah 1998). During the initial period of insurgency, the

RUF diversified its resource base, using forced labour to cultivate and harvest food and cash crops, and collect diamonds from abandoned alluvial mining sites, as they made their way closer to the main diamondiferous areas in Kono District and Tongo Field in Kenema District (Silberfein 2004).

The civil war 'ebbed and flowed' for over a decade with various changes in national leadership and attempts to bring a peaceful solution. Eventually, the Lomé Peace Accord was signed on 7 July 1999, in which the government and the RUF agreed to a total and permanent cessation of hostilities. On 22 October 1999 the UN Security Council established the United Nations Mission in Sierra Leone (UNAMSIL) to assist with the implementation of the Lomé Peace Accord, and the Disarmament, Demobilisation and Reintegration (DDR) plan (Malan 2003). Unfortunately, the Lomé Peace Accord proved another false dawn, and was nullified in May 2000 when the RUF captured 500 UNAMSIL peacekeepers in an attempt to seize power. The breakdown of the accord prompted the British Government to send a 'spearhead battalion' of approximately 700 troops into Sierra Leone in May 2000 (Williams 2001). This intervention led to greater stability and boosted the morale of UNAMSIL, who were able to secure Freetown. By late 2001, UNAMSIL peacekeepers had access to most of the country, and around 72,000 combatants from both the RUF and pro-government militia such as the Kamajors had been disarmed (Harris 2012). The Sierra Leone Civil War was officially pronounced over on 18 January 2002 (Zack-Williams 2012).

Following the culmination of conflict, Sierra Leone has experienced continuous peace, which some ascribe to a largely successful DDR programme (Leff 2008). Once stability was achieved, the priority was to embark on a reconstruction and development strategy to re-build the economy and re-construct infrastructure which had been badly neglected during the war. However, the reconstruction process was interrupted in 2014/15 with an outbreak of the deadly Ebola virus, which involved 14,122 declared cases, leading to 3,955 deaths (WHO 2015). Health-care facilities proved to be woefully inadequate in coping with the crisis and international intervention was necessary. Many rural communities were at times in 'lockdown' in an attempt to prevent the spread of the disease. The imposed restrictions undoubtedly had a dramatic effect on economic activity, while the agricultural sector suffered significant disruptions in the crop planting cycle and reduced outputs (UNDP 2015).

METHODOLOGY

The main objective of the authors' research since the 1970s has been to understand how households have adapted their livelihood strategies over time and to determine the key priorities and challenges for improving livelihood outcomes. Murray (2002) suggests that a longitudinal dimension to livelihoods research can be achieved through a retrospective reconstruction of change over time, which involves the approximate comparison of different surveys, carried out at different points in time for different purposes, complemented by the use of

intersecting life histories. It is this retrospective longitudinal methodology upon which this research is based, in that methods used in the more recent fieldwork sought to collect data that was not only comparable with that collected in the 1970s (Binns 1980), and to a lesser extent the work of Binns and Maconachie in the mid-2000s (Binns & Maconachie 2005; Maconachie & Binns 2007a, 2007b), but also to draw out perceptions of long-term continuity and change among the current population. The authors’ links with the Kayima community have developed over a long period of time, in one case going back to 1974, and in the other case making frequent visits since 2014. Such ‘embedded’ research has created strong relationships of trust and reciprocity that have opened up valuable opportunities to understand the nature of society and the dynamics of change in Kayima.

As alluded to above, the findings presented in this paper are based on multiple periods of data collection. Primarily, data collected by Binns in the 1970s (Binns 1980), which is used as a baseline; and data collected by Bateman in 2014 (Bateman 2017), to provide comparison. During these periods of data collection, a mixed methods approach was used, and in each instance included a survey of 50 households, and semi-structured interviews with a range of key community stakeholders. In 2014, various participatory methods were also utilised, including focus groups, guided field walks, participant observation and community mapping exercises. In addition to these primary periods of data collection, the authors have visited Kayima annually from 2017–2020, and on each occasion conducted interviews with key community stakeholders; focus groups with a range of community groups; participant observation; guided field walks; and in 2017, a condensed version of the earlier surveys with 20 households. All the semi-structured interviews, and most focus groups and guided field walks were conducted in English, though the responses of some of the participants in the group-based methods were, at times, relayed through more competent English speakers within the group. The majority of the household surveys, however, were conducted in a combination of Krio (the national lingua franca) and Kono, the local language, and therefore required translation.

INTRODUCING KAYIMA

In an effort to understand the relationships between diamond mining and agricultural change, Kayima, in Sandor Chiefdom, Kono District, was selected for the original study in 1974 as it was essentially rural, and where farming was the main occupation, but was located within reasonably close proximity of diamond mining areas – in the Bafi River valley some 20 km south of the town (see [Figure 1](#)).

Kayima is located 40 km, some 3 hours travel time, north-west of Koidu, the second largest city in the Eastern Province. It is situated at an altitude of 366 m on a highly dissected plateau, punctuated by large isolated hills (Binns 1980). The vegetation in the area is primarily savanna interspersed with

secondary forest (Figure 2). Kayima receives a mean average rainfall of 2540 mm, mainly between May and October. The mean annual temperature is 26.5°C, though there are greater diurnal and seasonal variations, notably between December and February, when the cool and dusty Harmattan wind blows southwards from the Sahara Desert.

Kayima is the headquarter town of Sandor Chiefdom, the largest chiefdom in Kono District. Its population is about 1,881, the majority of whom are from the Kono tribe, who probably migrated to this part of Sierra Leone from what is now Guinea, sometime during the 17th century. Kono is the primary language spoken, and the use of Krio is also widespread, with English being largely restricted to use in the primary and secondary schools.

Subsistence agriculture is practiced by more than two-thirds of the entire population in Sierra Leone, but in Kayima an even higher proportion of the population is engaged, and thus it constitutes the primary source of livelihood for most rural households. The upland rice farm is the most commonly practiced form of subsistence agriculture in Kayima, though the use of swampland for agriculture has become more common in recent years. In addition, many rural households complement their subsistence needs with cash crops such as coffee, cocoa, palm oil, pineapple, orange, banana and kola nut.

The upland rice farm is entirely rain-fed and is managed on an annual cycle which is closely aligned with the rainfall regime. Preparation of the farm is undertaken during the dry season in January and February, then, after burning the cleared vegetation, seeds are sown with the onset of the first rain showers in late February or March (Figure 3).

Rice is the main crop, but a wide range of other crops are intercropped on the upland farm – tomato, yam, benniseed, okra, cassava, pumpkin, beans and others. The crops grow rapidly during the rainy season and weeding is important. By late August the crops are maturing, so fencing and bird-scaring are needed to reduce crop losses due to rodents and birds. Some crops, such as maize and cassava, can be harvested at this time, providing much-needed food for households, but the main rice harvest usually occurs during October and November. Following the rice harvest, the farm is then generally abandoned for 8–12 years, but fallow periods have reduced in recent years. A new farm is then chosen, and the clearing and cultivation cycle starts again early in the New Year.

DISRUPTION AND RECONSTRUCTION IN KAYIMA

In contrast to many rural settlements in Sierra Leone, Kayima's population is little changed in size over 50 years, only slightly increasing from 1853 people in 1963, to 1881 in 2013 (Statistics Sierra Leone 2014). During the civil war (1991–2002) Kayima's remoteness led to it being relatively sheltered from the early throes of conflict, but it was later evacuated. As the following statement from a field research participant illustrates, once drawn-in, the community remained vulnerable to the impact of war until its culmination in 2002:



Figure 2. Aerial photograph of Kayima in 2014 (Google Maps 2014).

The war first came here in 1995, we all heard the rebels were coming, so we ran away to the bush. But it was just a dodge, the government soldiers managed to repel the rebels, and we were able to come back after just one or two weeks. Then, in 1997, the war proper came. The rebels came into Kayima, and everybody left. Those who were not fast enough were captured, and some were killed ... After two years, the local hunters [Kamajors] and government soldiers managed to drive the rebels out, and word spread that it was safe to return. But then factions of the government force joined with the rebels [sobels] and it became impossible to tell who was a friend and who was an enemy, so many people stayed away ... [they] didn't feel completely safe to settle back in the town until after the war was officially over in 2002. (Participant #62, 30 May 2014)

Only one of the 50 households surveyed in 2014 camped in the bush near the town while displaced during the war, because two elderly members were considered too frail to travel further. However, most households based themselves in or near other settlements, predominantly in the Northern Province, but also in the capital, Freetown, and across the border in Guinea, where they either lived in formal displacement camps, or with friends, family or benevolent strangers, or in informal bush camps with other displaced households. Some 18 out of the 50 households surveyed became 'nomadic'.

A post-conflict survey in 2004 revealed that 34% of the town's buildings were destroyed during the war, while combatants also destroyed bridges, schools, hospitals, markets, community halls and water pipes (Maconachie *et al.* 2006; Maconachie & Binns 2007a, 2007b). A map produced in 2004 highlights the scale of physical damage (Figure 4), with some 18 of the 50 households surveyed in 2014 stating that their houses were completely destroyed during the war.

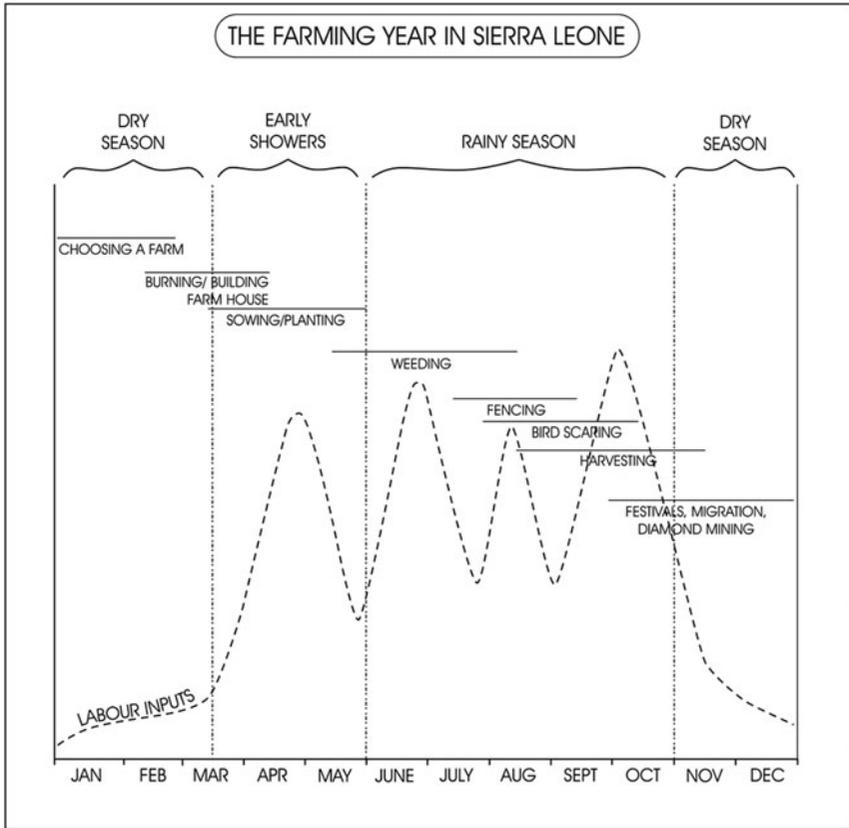


Figure 3. The farming year in Sierra Leone (source: authors' research).

Beyond physical damage, the other major consequence of the war in Kayima was the disruption to the structures and processes of governance and education at the local level. As mentioned previously, the RUF initially targeted the rural elite, particularly chiefs and court chairmen, and thus these 'big men' were among the first to flee Kayima. This created a vacuum in local governance, leaving the community reliant on the failing state to fill the void, something that was well beyond its capacity. According to Participant #9 (21 February 2014), the targeting of the rural elite also dissipated an already weak civil society in the Eastern Province, as it severed the flow of information between isolated rural communities and central government. In surveys of youths conducted in Kayima in 2004 and 2008, 12 out of 50 respondents on each occasion commented that, 'Community cohesion has been damaged by the chiefs, who have become selfish and taken advantage of the youths by levying excessive fines' (Fanthorpe & Maconachie 2010: 271).

Education was also severely disrupted during the war. But the education system was already on the brink of collapse before war broke out, as teachers

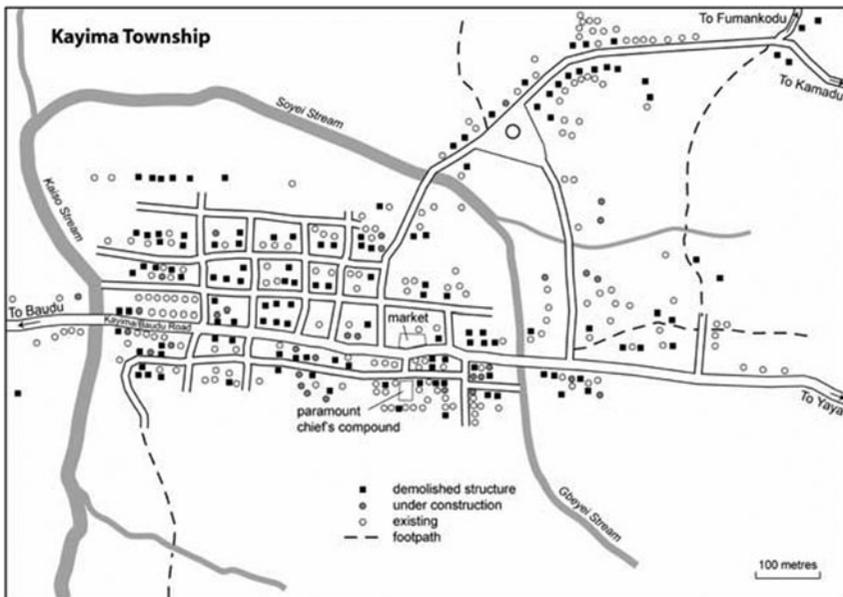


Figure 4. The scale of physical damage from the war in Kayima (Maconachie *et al.* 2006).

sought fees from parents in lieu of state funding, forcing the withdrawal of many children from formal education (Hirsch 2001). As a participant describes, war-induced dislocation ‘curtailed education for everybody. For ten years people were always running, so it was difficult to receive decent education’ (Participant #43, 10 April 2014).

The post-war household surveys in Kayima revealed an under-educated generation who felt they were left with few economic opportunities beyond subsistence agriculture post conflict. The war also had a major impact on health facilities, trade and transport networks.

When Kayima residents returned home after peace was restored in 2002 they faced a number of challenges. In particular, the key constraints on rebuilding their agriculture-based livelihoods were the limited availability of rice seed to plant, tools and materials to clear land in preparation for planting, food to sustain such work, and money to purchase what resources were available. Limited supplies of, and high demand for, these key resources subsequently forced prices up, which further exacerbated the problem. A lack of shelter caused by the widespread destruction of physical infrastructure was also a significant constraint, while other challenges mentioned included the loss of labour and knowledge as a result of the death or migration of household members during the war, overgrown bush as a result of neglect during the war, lack of clothes and medicine, limited access to land, livestock and social capital, and poor mobility.

To address these challenges, a number of strategies were adopted by households, but each generally revolved around generating sufficient financial capital to access the key resources discussed above. Cash crops such as cocoa, palm oil and coffee took on added significance, as they were generally perennial crops, and therefore in some cases were able to be harvested straight away, whereas subsistence crops such as rice and cassava were not immediately available for harvest upon resettlement, and required greater capital input to restart. Although cash crop yields were impacted significantly by the lack of maintenance during the war years, some households were able to use the small income from their sale to slowly re-build their capital base, and re-establish their livelihood portfolios, as the following comments suggest:

It was very difficult [after the war]. The rebels had destroyed most crops. They took the harvests of my farm crops for their own consumption, but my plantations were ok. They had been left because they required processing, and the rebels were only interested in food for consumption. So, I brushed [cleared] my plantation, and was able to make a small harvest, and sell it very quickly. It gave me enough money to eat, repair my dwelling and start a new farm. So little by little I was able to rehabilitate my life through agriculture. (Participant #31, 25 April 2014)

Other households, particularly those without cash crop plantations, or those who were unable to salvage any produce from their cash crop gardens, sought other means of generating the start-up capital required, as mentioned by another participant:

We had no money to buy seeds or tools, so I went (diamond) mining with my father to earn some money. We worked for a 'bossman' near Yomandu, but the money was only 'small-small'. After some time, we decided to go back into the bush. We had access to family land in Kayima, so we used the small-small money from mining to buy seeds and tools, and started farming again. (Participant #22, 23 April 2014)

Others provided labour for those with sufficient access to the resources required to start farming immediately:

It was really difficult to come back here after the war. You can see, we have no shelter, until now we have been sleeping under a tarpaulin. It was very difficult to start farming. I had to work for others to get enough money to buy the materials to get my own farm going again. (Participant #14, 19 April 2014)

Other sources of vulnerability include the unexpected loss of crops, mainly due to birds and rodents such as the cane rat, commonly known in Sierra Leone as the 'cutting grass', which were also mentioned as key problems in the 1970s research. Household health shocks can have a major impact on farm labour inputs and subsequently on productivity. Malaria is common throughout the country, and during the Ebola epidemic (2014–16) lockdowns and other restrictions imposed to prevent the spread of the deadly virus had a dramatic effect on economic activity. Unexpected expenditure on treatment, medication, and in the case of death, funerals, can reduce or halt expenditure on other essential commodities such as food

and education, and can leave households with debt, which they cannot pay back.

A significant difference in recent research from findings in the 1970s was that respondents often indicated that climate change was increasingly becoming an issue for agricultural households in Kayima. The focus of concern was not so much on overall changes to annual rainfall or temperature, but the increasing variability of rainfall and temperature, and its impact on agriculture, given that the farming system is so closely aligned to climate patterns. Bangura *et al.* (2013) argue that variable climatic conditions and climate events, such as drought and flooding, have created uncertainty for subsistence agriculture across the country.

While the war clearly had a dramatic impact on livelihoods, the main sources of on-going vulnerability identified were not direct consequences of it. Households highlighted ‘micro-scale’ shocks such as the loss of crops as a result of pests, fire or theft, and household health shocks resulting in the incapacitation or death of one or more household members. The situation was remarkably similar during the 1970s research (Binns 1980). Limited access to key resources, particularly labour, but also seeds, tools and fertilizers, was also a significant source of vulnerability in the 1970s.

The war clearly exacerbated such shortages, but observations from the 1970s suggest that they were an issue long before the conflict. The persistence of these issues indicates that livelihood vulnerability in Kayima is as much symptomatic of the limited capacity to mitigate against micro-shocks, and the lack of adequate safety nets to cushion them when they occur, as it is a consequence of larger-scale shocks such as the civil war. Thus, it could be argued that the war perpetuated vulnerability in rural Sierra Leone, rather than being the root cause of it. However, the incidence of, and inability to deal with, micro-scale shocks over time, cannot be extricated from the broader political and economic structures and processes at play. Poor governance and corruption which began at the national level under Siaka Stevens’ leadership, have become pervasive at all scales, and have contributed to the failure of the state, and other local and district-level administrative bodies, to create adequate safety nets.

Remarkably little has changed in the fabric of Kayima over almost five decades. Whilst households seem to survive from year to year and have demonstrated an ability to bounce back after shocks such as the civil war and the Ebola epidemic, one must question whether any real development has actually occurred over a 40+ year period, in terms of delivering a better quality of life for households and individuals.

There has been little improvement to housing, with most households having no electricity and still sourcing their water supply from outside standpipes connected to a small community-built dam in the surrounding hills. The town does, however, now have a secondary school and the primary school has expanded

since 1974. There is a small community bank, and a cell-phone mast was constructed in 2011. Whilst many households do not engage in banking, often because money is spent immediately, the cell-phone mast has been beneficial to the 33 of the 50 Kayima households who own a cell-phone.

Some, notably older, respondents believe there has been a decline in social capital. One Kayima elder, lamented the shift in attitude and its impact on livelihoods, stating that ‘up until the war, there was oneness, but now, everybody is living independently of one another. For now, there is no oneness, everyone is going ahead with life the way they like it and going about their own farming without concern for the farming of others’ (Participant #45, 10 April 2014).

However, another respondent spoke of ‘a significant increase in “farmer-based organisations” [FBO] in Kayima’ (Participant #64, 1 May 2014), which he believed was largely facilitated by the introduction in 2010 of the Sandor Agricultural Business Centre (ABC). Farmers in these FBOs maintained their individual farms for household subsistence, while the FBOs are more commercially focused, and aimed at increasing financial capital. This form of social capital is not new in Kayima and signifies the return of formal agricultural associations that Binns & Maconachie (2005) found notably absent in the immediate aftermath of the war.

Household average annual income in Kayima is very low, in 2014 averaging only 579,714 Leones (US\$133.42). In terms of expenditure, respondents to both the 1970s and 2014 surveys were asked to list key items of household expenditure during the previous year. In the post-conflict period school fees seem to have overtaken clothing as the most common item of expenditure, while perceptions of the decreasing influence of social capital are reflected in a significant reduction in the number of households spending income on ceremonies such as burials and society initiations. Although some expenditure was associated with building and repairing houses, it seems that household expenditure is still largely focused on school fees, clothing, food and farming, with very few respondents mentioning discretionary items, which suggests that the spending power of agricultural income is little changed from the 1970s. Further, the 2014 survey placed no restriction on the number of responses given per household in relation to items of expenditure in the previous year, yet yielded only 100 responses, whereas the 1974 survey asked for up to five responses per household and yielded a total of 145. This indicates that households, on average, are currently spending income on fewer items than they were in 1974, and thus it could be argued that the spending power of agricultural income is now actually marginally lower than it was in 1974. Households in the 1970s were benefitting from the sale of crops in the diamond-mining areas to the south of the town. Large quantities of citrus fruits and, to a lesser extent, cassava and rice were regularly transported to towns such as Koidu and smaller diamond-mining settlements such as Tefeya and Yomandu in Kono District (Binns 1982). Such trading in recent years is much diminished with the reduction of diamond mining since the war, and the very poor

condition of Kayima's main road, leading to fewer opportunities for transporting produce.

While the introduction of banking institutions may not have appreciably improved access to credit, the physical presence of a bank, in conjunction with the recent proliferation of mobile communication technology, has significantly aided the flow of remittances to households. Eighteen of the 50 households felt that remittances had increased since the inception of banking facilities in the community.

Given that machinery still remains inaccessible to most, agricultural livelihoods in Kayima, and indeed throughout Sierra Leone, still predominantly rely on hand tools. Both the 1970s and the 2014 surveys discovered little variation in the suite of tools available to agricultural households. Wooden-handled axes, cutlasses and hoes are the main tools, with blades fashioned by local blacksmiths.

Vehicle ownership is another area where little appears to have changed since the 1970s. Motor vehicles are extremely rare in Kayima. In terms of agricultural households, private ownership of any form of transport is almost unheard of, with 46 of the 50 households surveyed claiming no vehicular ownership. Three of the four exceptions owned a motorbike, while the remaining household owned a bicycle. The situation was much the same in 1974, when not one of the 50 farmers surveyed owned a vehicle, while in his 1978 re-survey, Binns (1980: 334) stated that there was 'little change in the transport ownership situation'.

Transport infrastructure in and around Kayima has undoubtedly deteriorated significantly. In the 1970s, Binns (1980) noted that there were 132 miles (212.4 km) of laterite (un-metalled) road in Sandor Chiefdom, connecting Kayima with key transport and marketing nodes such as Yomandu and Tefeya, both of which had access to Koidu via ferries across the Bafi River. These roads were regularly maintained by 40 labourers and financed by the chiefdom-controlled 'Native Administration'. In contrast, these roads are now predominantly ungraded, and generally consist of a combination of exposed rock, dirt and loose gravel, with no evidence of maintenance or spending over the duration of recent field visits. While the Koidu-Kayima road can be navigated by four-wheeled vehicles in the dry season, passage can be unreliable during the rainy season, thus motorbikes have become the most practical form of transportation. The one notable improvement is that there is now a bridge over the Bafi River near Tefeya, built by a small diamond-mining company after the war. But many years of damage and neglect during the civil war, and limited access to resources since, have had a serious impact on road quality. In terms of livelihoods, the condition of the feeder road network severely limits long- and medium-distance transport options, restricting mobility, which in turn has restricted access to key markets, therefore limiting the opportunity to optimise income. This is exemplified by the fact that although farmers in the 1970s often sold surplus crops at markets in other towns and villages (Binns 1980), in recent years, any surpluses were mainly sold in the local market.

FOOD (IN-) SECURITY

Food security, or rather ‘in-security’ is a major concern among Kayima households. Amartya Sen’s seminal book *Poverty and Famines: an essay on entitlement and deprivation* states that ‘starvation is the characteristic of some people not having enough food to eat. It is not the characteristic of there being not enough food to eat. While the latter can be a cause of the former, it is but one of many possible causes’ (Sen 1983: 1). These sentiments touch on the complexity of food security, indicating that access to food, and not simply the availability of food, is the key barrier to obtaining food security. Others have since argued that qualitative dimensions to food security, such as nutritional value and cultural preference, also need to be considered when measuring the extent to which food is secure. In order to encapsulate these complexities, the World Food Summit in 2009 built on its earlier manifestations to define food security as existing ‘when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life’ (FAO 2009: 1).

Household food insecurity continues to be a major issue of concern throughout Sierra Leone, and particularly in rural areas, with a 2011 World Food Programme survey revealing that 54.1% of the rural population were ‘food insecure’ and around 7.4% were classified as ‘severely food insecure’ (WFP 2011). Although rice production levels have increased in recent years, this is mainly due to an expansion of the cultivated area rather than an increase in yields, and crop yields are low by international standards (Binns & Bateman 2017). The survey also found that ‘65% of households that cultivate rice do not produce enough to feed their family’ (WFP 2011: 38). The widespread prevalence of food insecurity is reflected in the fact that 34% of children aged 6–59 months are stunted and 9.5% are ‘severely stunted’ (WFP 2011). Drawing international comparisons, another survey revealed that Sierra Leone is actually worst in terms of food insecurity among 15 West African countries (Spencer 2012). The Sierra Leone Government introduced a food security policy in 2007, expressing a vision of making ‘agriculture the engine for socioeconomic growth and development’ (Government of Sierra Leone 2009: 7).

Food insecurity became a big problem during the war, as one Kayima respondent explained:

Many people found it difficult living away. People from other tribes often treated us badly, and there was no food available. Farmers were not even able to grow enough food for their own families, so there was no food for outsiders, and we had no money to buy it anyway, even if there was. (Participant #38, 23 May 2014)

In the post-conflict period food insecurity has been a major contributor to household vulnerability and has been explored in some detail by the authors elsewhere (Bateman *et al.* 2017; Binns & Bateman 2017). The WFP survey (WFP 2011) found that some 85% of rural households in Sierra Leone had

recently experienced a 'shock' of some sort that had affected their household food production and consumption.

Research in Kayima in the 1970s and since the end of the war has revealed two persistent causes of food insecurity, namely seasonal food insecurity and intra-household food availability and access. A number of writers have commented on the widespread existence of a 'hungry season' among rural communities in Sierra Leone (Binns 1982: Richards 1986: Binns & Bateman 2017). Shortages of key foodstuffs occur when stocks from the previous harvest are running low and when prices are at their highest in local markets, making them unaffordable for many households. Following research conducted in the 1970s, Binns commented, 'During July and August, many farm families experience shortages of food, and this time is often referred to as the "hungry season". Rice supplies are low at this time and the farmer depends on crops such as maize and cassava, and sometimes imported rice, to stave off hunger' (Binns 1980: 232).

Such observations are corroborated by the World Food Programme's post-war surveys that found that Kono District, where Kayima is located, has 80% self-sufficiency in rice, and there are marked seasonal variations, with July and August being most difficult, and when purchasing rice is most expensive (WFP 2008). During field research in 2014, some 39 of the 50 households surveyed referred to the 'hungry season' at some point during their survey, with the following statement being representative of the general response, 'the months before the harvest are the hardest. There is no food for my family to eat. When we harvest in September it is joyous, oh so joyous' (Participant #50, 19 April 2014).

Intra-household food availability is also an issue in many households. A typical family meal in Sierra Leone comprises a bowl of stew (often called 'soup' or 'sauce'), which is palm oil based and includes green vegetables (e.g. okra, spinach, cassava leaf, sweet potato leaf), tomato, chilli peppers and variable amounts of meat and/or fish. The sauce is usually poured over a bowl of rice which the family sit around and eat with their fingers. Within most rural households there is a notable hierarchy in terms of the order in which different individuals eat their meal (Binns & Bateman 2017). Access to food by women and children is governed by social customs. Although women may spend many hours preparing food, in addition to working on the farm, what they eat often does not fulfil their nutritional requirements. The situation can be even more difficult for children, who may only get to eat leftover food once adults have finished their meals. There seems to have been little change in this practice since the 1970s research in Kayima, and this is consistent with Barrett's (2010) observation that uneven inter- and intra-household food distribution is a manifestation of the socio-cultural limits and prevailing values within a community. It seems that expenditure on food in Kayima has remained stagnant compared with the 1970s, and relative to other items of household expenditure.

For most farming households food security is largely governed by what they can produce. Many respondents, from the 1970s to the present day, have

mentioned problems of labour supply as a key factor affecting crop yields. Such factors as an elderly household workforce, out-migration of young household members and incapacitation of farm workers due to illness or injury, are frequently mentioned as affecting levels of labour input. Communal labour groups, known in Kayima as ‘boma’, were popular in the 1970s, but less so in recent years. Those with limited or no social capital in particular had difficulty accessing such groups. As one respondent commented, ‘Because I have been away from Kayima, I don’t have the contacts to help. It is just me and my mother, but she is too old to help. I alone do the farm work, and there is no one to prepare food for work, so I have to prepare meals, and make sure my mother is feeding’ (Participant #26, 24 April 2014).

The nutritional quality of food eaten is also variable, both seasonally and socially. Meat is rarely included in meals, but dried fish is a common addition to the sauce. However, WFP found that, ‘in many cases the quantities are too small to make a significant contribution to the protein intake of individuals in the household’ (WFP 2008: 34). Where meat and/or fish are included in the main household meal it is likely that these are eaten by the men who generally eat first and are therefore not available for women and children.

CONCLUSION

Research over almost five decades has shown how Kayima households have generally coped with a wide range of shocks of different character and magnitude. On the one hand there have been some ‘macro-level’ shocks that have impacted on the community. For example, the long period of dysfunctional government following independence leading eventually to the civil war in 1991. The civil war itself led to the abandonment of the town and the disruption and horror of this turmoil are indelibly fixed in the minds of those who survived it.

Then there was the Ebola epidemic in 2014–2016, which fortunately did not directly affect Kayima, but the lockdowns and widespread fear were an unforgettable time and undoubtedly affected farm productivity and indeed the wider economy. In considering both agriculture and diamond mining, Maconachie & Hilson (2018) comment that:

many of Sierra Leone’s diggers turned to agriculture during the Ebola crisis, when investment in diamond mining diminished considerably. Doing so offered a much-needed buffer against shocks by helping to alleviate concerns about food security at the household level. For most, it proved to be a relatively straightforward move, as agriculture had long featured heavily in their livelihoods portfolios. (Maconachie & Hilson 2018: 118)

In addition to these countrywide ‘shocks’, there are local day-to-day shocks, such as illness and death, a loss of crops due to bad weather or pests, a reduction in the family labour supply through death or out-migration and, more recently, evidence of a changing climate (Bangura *et al.* 2013). Such shocks can have a dramatic and prolonged impact on household livelihoods, and this has not changed since the 1970s.

As earlier research revealed, some Kayima households strive to diversify their livelihood portfolios in an attempt to better cope with unexpected shocks. As Ellis (1998: 4) suggests, such diversification represents 'the process by which households construct a diverse portfolio of activities and social support capabilities for survival and in order to improve their standard of living' (Ellis 1998: 4).

Binns (1980) considered in detail the symbiotic relationship between agriculture and diamond mining in the 1970s, highlighting that farmers not only benefited from their ability to sell surplus produce at markets in mining areas, but also actively engaged in mining as a form of livelihood diversification. However, the closest mining areas are now over 20 km from Kayima and most households have always regarded themselves as primarily farmers. In 2014 none of the 28 households which reported that one or more of their members had engaged in mining at some stage, were currently actively involved in mining.

Blacksmithing, carpentry, fishing and petty trading are practised by a few households, but it is the rapid growth of new technologies in the past decade that has seen a shift in non-agricultural livelihood diversification in Kayima. Mobile credit agents and 'tele-centres' providing a phone-charging service have become common. The other significant change in recent years has been the increasing number of Okadas (motorcycle taxis) which have replaced four-wheel taxis and have led to other livelihood diversification opportunities, notably the transport and sale of petrol, and the provision of small-scale mechanical maintenance and repair services (for more detail see Peters 2007; Fanthorpe & Maconachie 2010).

More recent observations suggest that some forms of agricultural diversification are also occurring. Whereas the upland rain-fed rice farm is still the dominant mode of food production, there is evidence of greater utilisation of wetlands, and an increased emphasis on permanent cash crops such as cocoa, coffee and citrus. Households see certain advantages in swamp rice farming, as swamps do not require fallow, are less reliant on climatic patterns, require fewer labour inputs and are more receptive to high-yield rice varieties. Recent surveys have found that rural households growing cash crops such as coffee and cocoa are generally less likely to suffer from food insecurity than food crop farmers, but price fluctuations can affect revenue from such crops (Spencer 2012).

It seems that change in Kayima's rural livelihoods has been constant and at times dramatic over almost five decades of observations, but many of the problems that plagued development in the 1970s sadly still persist. Income levels remain low, food insecurity persists, and there does not appear to have been any discernible improvement in well-being, sustainable use of the natural resource base, or reduction in vulnerability. Bateman sums up the situation with the phrase 'the more things change, the more they stay the same' (Bateman 2017: 221). Vulnerability might be reduced through relatively straightforward measures such as establishing a community cereal bank to ameliorate the effects of the hungry season, reducing crop losses due to

rodents and improving post-harvest storage methods. Education on aspects of food and nutrition is needed at all levels to challenge cultural practices and to improve nutritional awareness. The Kayima community has identified the need for a nursery school and feeding programmes for pre-school children, together with an upgrading of the local clinic which has changed very little in five decades.

Corruption is undoubtedly a significant contributing factor to the lack of improvement in livelihood outcomes. Yet most respondents viewed corruption as an external process affecting them, but one in which they neither participate, nor have any control over. 'Everyday' forms of corruption are generally perceived as part of the cultural fabric of Sierra Leone and have therefore become accepted practice. For example, the manager of the local Agricultural Business Centre (ABC) argued that his predecessor was, in part, liable for its problems, as its members utilised the funds and equipment provided by the project donors for extraneous purposes. But corruption was only partly blamed for the precarity of the ABC, with the current manager also arguing that the Ministry of Agriculture, Fisheries and Food Security (MAFFS), the government ministry responsible for the implementation of the project, and the Italian Program for Food Security (FSCA) and the Food and Agriculture Organisation (FAO), who provided financial and technical support respectively, had failed to build capacity within the community to sustain the project. Some of the promised machinery and equipment never materialised, and for that which did, the training provided for its correct use and maintenance ranged from limited to non-existent, and therefore it was generally misused and poorly maintained. Furthermore, while there is a small mechanical workshop in Kayima, the users lacked the knowledge and spare parts to repair the ABC machinery when it inevitably broke down, and consequently most of it was out of commission within four years of the project's inauguration.

Certain cultural issues have also militated against uplifting livelihoods in Kayima. Chiefs and 'big men', and those with links to them, are able to command land and labour readily compared with the majority of households, whilst female-headed households are further disadvantaged in having limited customary land rights. The patriarchal nature of Kono society is manifested in many ways including intra-household access to food. Membership of cultural groups such as Poro and Sande (men's and women's secret societies), and other formal and informal groups was also found to impact on access to various livelihood assets. In a more tangible sense, financial capital, the most transferable livelihood asset, was clearly the key determinant for access to education, health care and transportation, and indeed most other livelihood assets. Community members need to demand accountability from political leaders, civil servants and themselves, and the rapid growth of communication technology could be harnessed to improve links between residents and media outlets in larger centres, and to provide a conduit for reporting corrupt practices.

Despite the many shocks, Kayima households have generally displayed a remarkable level of resilience, though over almost five decades there has

sadly been little improvement in household well-being. This lack of local development is reflected in factors such as low household incomes, which no longer benefit from the large-scale crop sales of the 1970s, a decline in household spending power, persistent seasonal food insecurity, poor health care, declining social capital and a marked deterioration in local transport and mobility. It seems that persistent vulnerability has constrained both the availability of, and access to, various livelihood assets at different times, which has resulted in limited growth in households’ overall asset base. This inability to grow the asset base has subsequently limited the livelihood strategies open to households and has therefore been detrimental to generating improved livelihood outcomes. If we regard the concept of resilience as the return to, or maintenance of, a previous state (Walker *et al.* 2006), rather than its improvement, it is perhaps unsurprising that household resilience has failed to translate into improved livelihood outcomes. Resilience, therefore, while vital to livelihood systems, and indeed survival, does not necessarily equate to development, which envisages a positive improvement in livelihoods over time. With evidence of both persistent poverty and resilience in Kayima, but little tangible improvement in livelihoods, it seems that the experience might be perceived as a case of ‘resilience without development’.

This long-standing and ongoing research has enhanced our understanding of livelihood systems within Kayima, a poor and remote community in north-eastern Sierra Leone. The identification of key priorities and challenges for future livelihood development could be incorporated into existing development initiatives, or perhaps form the basis for future initiatives, and thus this research could have implications for development policy and practice at the local scale. If development is conceptualised as achieving ‘positive change over time’, then an appreciation of the lack of development in spite of evidence of enduring resilience could, in itself, be considered a key contribution of this research. The research could possibly have much wider relevance, as there must be many more places like Kayima, both in Sierra Leone and elsewhere in Africa.

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