EPIDEMICS AND COMMUNITY CONFLICTS:

The Value of Indigenous Institutions in Addressing Development Shocks in Rural Sierra Leone

Esther Yei Mokuwa

PROPOSITIONS

1. Neglect of local institutions undermines development
   (This thesis)

2. Mobilization of families and local leaders was an essential aspect of the battle against Ebola
   (This thesis)

3. Software engineers created the "smart phone", but it is now used as a weapon to undermine telephonics with claims about the hidden dangers of 5G technology.

4. Rain forest conservation is seen as a matter for scientific specialists but in Sierra Leone the custodians of the forest are the villagers.

5. If African women are economically strong they will know how to deal with abusive husbands.

6. Grandmothers are very influential over the education of young children in Africa, so it pays to encourage grandmothers to study.

Propositions belonging to the thesis entitled:

Epidemics and Community Conflicts: The Value of Indigenous Institutions in Addressing Development Shocks in Rural Sierra Leone

Name: Esther Yei Mokuwa

Wageningen 9 December 2020

EPIDEMICS AND COMMUNITY CONFLICTS:

The Value of Indigenous Institutions in Addressing Development Shocks in Rural Sierra Leone

Esther Yei Mokuwa

Thesis committee

Promoter

Prof. Dr. E. H. Bulte
Professor of Development Economics
Wageningen University & Research

Co-Promoters
Dr. Harro Maat
Associate Professor
Knowledge Technology and Innovation
Wageningen University and Research

Dr. Maarten Voors
Associate Professor
Wageningen University and Research

Other members
Prof. Dr. M. A. Koelen, Wageningen University & Research
Prof. Dr. S. Mayhew, London School of Hygiene & Tropical Medicine, UK
Dr. G. Rugalema, World Vegetable Center, Tanzania
Dr J. de Klerk, Leiden University

This research was conducted under the auspices of the
Wageningen School of Social Sciences (WASS)

EPIDEMICS AND COMMUNITY CONFLICTS:

The Value of Indigenous Institutions in Addressing
Development Shocks in Rural Sierra Leone

Esther Yei Mokuwa

Thesis

Submitted in fulfilment of the requirements for the degree of doctor
at Wageningen University
by the authority of the Rector Magnificus,
Prof. Dr. A.P.J. Mol,
in the presence of the
Thesis Committee appointed by the Academic Board
to be defended in public
on Wednesday 9 December 2020
at 1:30 p.m. in the Aula.

Esther Yei Mokuwa

Epidemics and Community Conflicts: The Value of Indigenous Institutions in Addressing Development Shocks in Rural Sierra Leone
136 Pages

PhD thesis, Wageningen University, Wageningen, the Netherlands (2020)
With references, with summary in English

ISBN: 978-94-6395-592-8

DOI: https://doi.org/10.18174/533070

To my beloved late mother and father and families
and to my families for all your love and support

CONTENTS

CHAPTER 1

Institutions and Welfare in Rural Sierra Leone 1

CHAPTER 2
Introduction to Chapter 2 **34**

Social Pathways for Ebola Virus Disease in Rural Sierra Leone and Some Implications for Containment 37

CHAPTER 3
Introduction to Chapter 3 **66**

Trust, and Distrust, of Ebola Treatment Centers: A Case-study from Sierra Leone 68

CHAPTER 4
Introduction to Chapter 4 **96**

Rural Populations Exposed to Ebola Virus Disease Respond Positively to Localised Case Handling: Evidence from Sierra Leone 98

CHAPTER 5
Introduction to Chapter 5 **126**

Peasant Grievance and Insurgency in Sierra Leone: Judicial Serfdom as a Driver of Conflict 128

CHAPTER 6

Discussion and conclusion 170

REFERENCES **183**

SUMMARY **191**

ACKNOWLEDGEMENTS **197**

1

CHAPTER 1

Institutions and welfare in rural Sierra Leone

CHAPTER 1

Institutions and Welfare in Rural Sierra Leone

Human development takes place through institutions. This thesis will look at institutions in relation to agriculture and public health in the West African country of Sierra Leone. Sierra Leone is a country of 7 million people on the upper West African coast. It is one of the poorest countries in the world and has been regularly near the bottom of human development index for many years (UNDP 2017). The four main empirical chapters (chapters 2-5) will show how institutional factors were significant in addressing two major development crises in recent times – the civil war of the 1990s and the Ebola crisis of 2014-15.

Sierra Leone experienced an 11-year civil war from 1991 that devasted the rural areas in particular. Ten years or so rapid post-war recovery was then halted by the Ebola epidemic in 2014-15.

Development studies found the war in Sierra Leone a challenge. Was it the product of institutional failings or a resource curse (diamond mining)? Similarly, Ebola raised questions about conventional developmental responses. Was international medical assistance the country's only hope or could Ebola be overcome through local responses?

War needs no introduction. Ebola is less familiar. It is a viral haemorrhagic fever spread by contact with human body fluids. It particularly affects people who care for the sick, including those helping to bury the dead. The virus is thought to have spilled over from a forest animal host, possibly fruit bats. Until 2013 the disease was unknown in Upper West Africa. All previous outbreaks had been in central

and east Africa. The index case has been traced to a village in south-eastern Guinea and the disease was quickly spread by human cross-border contact to Sierra Leone and Liberia. This resulted in the largest Ebola epidemic to date.

This thesis will use both the civil war and Ebola as lenses through which to view institutions and development.

For many decades, development economics had a preoccupation with income and poverty. A Nobel prize winning economist Amartya Sen helped change the orientation of the field towards a welfare approach (Sen 2004). Due to Sen's influence the UN now measures development in broader terms via its Human Development Index (HDR) and the multidimensional Poverty Index (UNDP 2013). Institutional capacity is part of that broader view and is the focus of attention in this thesis.

Institutional capacity is also referred to as "*institutional capital*", also called "*wealth in people*" by anthropologist Caroline Bledsoe (Bledsoe 1980). This has become a focus for development economics and other social science disciplines in recent years (for an overview see Bulte et al. 2018). This is not to suggest institutions can be expressed in measurable quantities similar to economic capital.

The often-cited economic historian Douglass North (1990, 1992) defined institutions as "humanly devised constraints that structure political, economic and social interactions." In every nation or society of a certain size, different sets of humanly devised constraints emerge because people live in a rural or urban area, create professional organisations, practice different religions, etc. Put simply, institutional capacity is about ways to ensure that humanly devised constraints do

not turn into obstacles for individual and social development. Therefore, development should be measured by its impact on people, and not only by changes in their income. This means more generally assessing human choices, capabilities and freedoms (Sen 2004). It is important to understand the organizational resources local agents can command. Capability and well-being depend on institutional functionality.

The thesis will draw extensively on the theory of institutional ordering developed by Mary Douglas, sometimes known as "*Cultural Theory*" (Douglas 1987, 6 and Richards 2017). Her perspective is applied to the case-study examples in chapters 2-5.

A conceptual framework for institutional capacity

There is no single agreed definition of an institution or institutional functionality. In general, all definitions include features such as schemes, rules, norms and the processes through which routines become established as guidelines for social behaviour (Scott 1995).

One well-known definition given by the economic historian Douglass North refers to institutions as "*the rules of the game*" (North 1990) and various definitions are derived from his writings, all within the given range of features. Likewise, the anthropologist Mary Douglas includes conventions as well as rules in her definition of institutions (Douglas 1987). Conventions are unspoken rules that have become accepted through common use.

However, Douglas prefers the phrase "*styles of thought*" over definitions of institutions as systems of rules and conventions. This is because this phrase also

covers beliefs, values, mindsets and cultural practices which govern correct behavior within a given group. For example, talking to the spirits of the dead is seen as a normal cultural practice, and even celebrated, in rural Sierra Leone but might get you sent for psychiatric assessment in a Western society. This is to highlight that institutions are more than a given starting point or external frame of reference but include all processes through which social interactions are expressed and regulated (Bulte et.al. 2018 and 6 and Richards 2017).

An example of the importance of understanding *styles of thought* during the epidemic response to Ebola in Sierra Leone is burials. No one is forced to go to a burial, to wash the corpse, or bury it in a certain way, etc. But people apply their own understanding of what is proper behavior in the context of death, to reinforce social relationships threatened by bereavement.

In rural Sierra Leone people pay close attention if a corpse is taken home for burial and feel impelled to contribute to funeral expenses. In-laws visit each other at the time of a death and sometimes behave violently or abusively to "test" if inter-family relationships will survive death.

Activities such as visiting the sick, sharing foods, and taking part in a funeral all have significance in terms of regulating future behaviour. Telling people to agree to allow burial be done by outsiders in protective clothing, as happened during the Ebola epidemic, is a much more drastic intervention in social life than merely handing over a task for safety reasons. International Ebola responders, at times, found this hard to understand.

As noted, ideas about how things "*should be done*" are often given as rules. Such rules are sometimes documented. At other times rules and conventions are expressed in less obvious ways, e.g. through hints and gestures – for example by

silence, by body language, or through statements that imply a meaning different from the actual words spoken.

In the Mende language the phrase *"kuku jumuku. Mua mu hun mia mu hungO goe"* means to say that "*To know, you have to be part of it, and if you are an outsider your speech makes no sense*". In other words, the Mende people do not easily reveal their thought style to outsiders, except the outsider is part of the action. Research on Mende institutions requires tactics other than simply interviewing people to ask what is going on. In other words, some institutional features of social life can only be grasped through participant observation or fluency in the local language.

As will be shown in later chapters, local conventions on marriage and death require analysis through a combination of different perspectives (this thesis, for example, combines perspectives from anthropology and economics).

Economists have made important contributions to the study of institutions. For example, Douglass North recognized that there were two distinct types of institutions - those that operate under formal rules, including those regulated by legal systems, political rule making and imposition by police or armed forces, and those which he termed "informal", ordered by traditions and customs. Mary Douglas' term "*styles of thought*" embraces both.

It should also be noted that North is explicit in distinguishing between organizations and institutions. Wageningen University is a specific organization. It belongs to a broader class or family of institutions – those concerned with higher education (Carter 2014).

North was an economic historian and was particularly interested in how institutions emerged, and how they change over time. He focused attention on the how small ruling elites create institutions through power struggles. In the king's court justice starts from the top and spreads downwards, perhaps initially only as far as a handful of nobles. Where the king's justice is successful at managing disputes there will eventually be demand for it to become available to the ordinary people. The king might agree, not out of benevolence, but because the economic benefits of good governance become apparent through civil peace.

Institutions may then take on a more general character. The more successful examples might spread to other locations. With time, North assumes, good institutions drive out bad. Development is a story about opening up to this beneficial spread.

Oliver Williamson took a different approach. His focus was the economics of the firm. He asked whether or not different kinds of institutional ordering could co-exist within a single firm, and how boundary-crossing between different kinds of institutions was regulated. This required him to open the "black boxes" of organization, a name he gives to the inner working of firms. While other economists concentrated on the behavior of firms as a whole, Williamson focused on internal mechanisms.

His Transaction Cost (TC) theory of institutions was developed to answer questions concerning which activities within a single enterprise might operate under different institutional regimes (Williamson 1981). For example, the production unit might be organized hierarchically, while the sales department motivated its staff by allowing them to compete. So, organizations based on market and hierarchy might operate side-by-side within a single firm (Williamson 1985).

Williamson's theory predicts which different forms of institutionalized governance (hierarchies or markets) are likely to be used. The factory division within a firm might choose a hierarchical form of governance in preference to reliance on market competition, because conflicts are easier and less expensive to solve in a factory environment, where everything is subordinated to keep the machines rolling.

Alternative organizational options can be priced in terms of transaction costs. Where transferring goods and services across interfaces between differently organized parts of the firm generate high transactions costs, internalizing the transaction within a hierarchy might be an appropriate option. The point to be emphasized is that the availability of a range of institutional options allows choices to be made and costed (Greve and Argote 2015).

Williamson's approach was endorsed by another major theorist of institutions – the anthropologist Mary Douglas. She applauds his focus on different forms of organization coexisting in the same economic space. But she wonders about the general validity of the transaction cost approach. This is because not all boundary conflicts can be resolved by assessing costs. The roots of institutional conflicts are often found (she argues) in elementary (foundational) differences of values (Douglas 1987). The ownership of sacred sites, for example, cannot be bargained. To address these fundamental conflicts, a better "map" of the range of institutions is needed (Douglas 1999).

For Douglas, there are four basic kinds of institutional order, each based on and enacted through four distinct styles of social monitoring and communication. These four forms are formed by cross tabulating two basic dimensions of all organization - social regulation and social integration (Douglas 1999). A

hierarchical ordering is not just characterized by many regulations but also by high social integration because regulations are accepted as meaningful rules by those adhering to the hierarchy. A low score on both dimensions leads to individualism. Douglas's scheme results in two more orderings, the "*enclave"* (low social regulation, high social integration) and "*isolate*" (high social regulation, low social integration). "*Enclave*" ordering is especially important in this thesis since it is frequently encountered in rural communities in Sierra Leone.

When there is a clash of values between two different social groups, for example between those under enclave ordering and those under hierarchy, both parties sometimes reject the idea of "reducing" their point of view to a practical bargain. Deep disagreements about Ebola burials were clashes of this sort. What happens then?

In the burial example, Douglas' theory helps to understand the social unrest and resistance triggered by "safe" burial during the EVD epidemic. The burial teams consisted of Sierra Leoneans familiar with the burial conventions in the country in general. However, nothing was done to link the work of a burial team instructed by a highly regulative medical system with the burial conventions engrained in the highly integrated social networks of the deceased. As chapter 4 will show, popular resistance to these early attempts at "safe" burial led to the introduction of a new medical entity (the Community Care Centre) that played an important consolidating role later in the epidemic by making allowance for local institutional values.

Another example of ways to overcome boundaries between different social orderings in the Ebola crisis is the role of mass media. The government wanted to convey messages to villagers about Ebola control and "bought time" on the radio

to get their messages across. But villagers did not so easily see value in those messages. As explained earlier, the enclave style of the Mende is often to say as little as possible when faced with serious social choices, and to make useful or positive interventions through actions when the situation demands.

Very different from a commander of a military platoon or a manager in a hierarchical business setting, a typical chief among the Mende people hesitates to impose power over the community through commands. He or she is the last person to speak in any kind of discussion or dispute among the people. After talk has been exhausted the chief will be asked for her or his view. Then people listen, knowing the chief's view reflects a collective conversation.

The word of the chief is a last-resort option, only to be deployed when all other options have been exhausted.

For villagers, constant radio messaging about the dangers of Ebola was treated as a kind of advertising babble. Messages about Ebola were much more effective when, finally, the chief started to speak and confirmed the dangers of Ebola, after all options had been debated by everybody else. The analytical approach followed below will help explain why the chief's voice carries more weight than messaging from government for village people. Institutions, Douglas argues, filter out certain kinds of messages and amplify others. In the words of the title of one of her best-known books she asks us to consider "How Institutions Think" (Douglas 1987).

These theoretical understandings have guided my analysis of the data collected for this thesis, presented in the following chapters. I have included a short explanation, ahead of the published versions of my papers, here reprinted as chapters 2-5, to clarify how each chapter relates to the theory as explained above.

Ebola Virus Disease – an introductory note

Now that I have illustrated my theoretical framework with examples from attempts to control Ebola Virus Disease (EVD) in Sierra Leone 2014-15, the topic of three of the four following empirical chapters (chapters 2-4), further brief details on the disease are needed, followed by a note on the agricultural issues addressed in chapter 5.

EVD apparently originated in the Congo forests. The first known outbreak was in community some 50 miles from the Ebola river in the Democratic Republic of Congo (then Zaire) in the early 1970s. The river lent its name to the virus to avoid stigmatizing the community where the first outbreak occurred. There have been twenty or so outbreaks since, mainly small and restricted to central or east Africa; it was unknown in Upper West Africa until 2013 (Richards 2016).

Epidemic spread in three West African countries – Guinea, Liberia and Sierra Leone – in 2014-15 was a major crisis scale initially thought to be associated with hunting and eating bush meat. But in fact, the main transmission routes were hospitals where staff and patients had no prior knowledge of the disease, and through people nursing the sick and burying the dead (Richards 2016).

The bush meat scenario may explain the index case but thereafter appears not to be relevant to the story of the epidemic. The main source of infection was through human-to-human transmission (Richards 2016). Sexual transmission was also a factor since there is clear evidence that Ebola virus can persist in EVD survivors long after signs and symptoms have subsided (MacDermott and Bausch, 2016; World Health Organization 2016).

Ebola disease has two major phases – the first lasts about 3 days with fever and headache and body pains (thus like malaria) then a second ('wet') phase last 3 days until death or onset of recovery, during which times the symptoms include vomiting, diarrhea and (sometimes) bleeding. The patient is highly infective during this second phase.

The international community addressed the Sierra Leone epidemic initially by building Ebola Treatment Centres (ETCs). These were large case-handling centres with strict safety protocols to ensure infection control. But ETCs were built behind the wave of infection not ahead of it. Patients were bused long distance by ambulance, and families were excluded from the care process. People were alienated by ETCs and many incorrect suspicions were formed about their purposes. The facilities were seen by patients and families as death camps (places where patients went to die). People hid sick family members and continued to carry out local burials. This resulted in continued spread of infection and rising numbers of deaths. It was at this point that international responders called for

help and started to involve social scientists in seeking answers to problems of conflicted institutional values. Chapters 2-4 tell this story.

Marriage and agriculture – an introductory note

Some institutional conflicts addressed in chapters 2 to 4 reappear in chapter 5, but now in a different context. Chapter 5 looks at a problem of agricultural labour mobilization regularly encountered in Mende villages. The agricultural system is based on production of rain-fed rice. Rice can also be grown in swamps, but this requires more labour (Richards 1986). People prefer the taste of upland rice, and try to grow as much as they can, leaving time available for other activities. However, there are labour bottlenecks during the period of farm planting. These

can be managed if there is inter-household cooperation, since not everybody plants the same rice varieties at the same date.

Moving labour around flexibly can be done through inter-family ties. For example, a father-in-law will expect his son-in-law to come and help him (a form of bride service). It is the price to be paid for the gift of a marriage partner. Some young men, familiar with transactional sex from time spent in the diamond fields, try to escape these labour obligations, and pick up casual girlfriends where they can. This results in local court cases for an offence known as “woman damage” (i.e. seeking damages for sex outside marriage). Fines are then paid off in farm labour. The chapter tests the hypothesis that these cases are driven not by sexual jealousy but by attempts to protect the labour-exchange system for upland rice. The case throws further light on enclave ordering as a mode of social cooperation.

Aims and research questions

Now that I have formulated a conceptual framework and introduced the cases of the thesis, the aim of the thesis can be stated, and research questions specified:

***Aim*:**

The present thesis seeks to show that international interventions intended to improve health and agriculture sometimes fail because insufficient account is taken of local institutional ordering and how this potentially affects development outcomes.

Overall research question:

How do external actors and rural communities cope with conflicts of institutional values generated in public health provision and agricultural development?

Sub-questions:

1. How and why did EVD spread in rural Sierra Leone (Chapter 2)?
2. What institutional challenges were raised by the spread of EVD in rural Sierra Leone (chapters 2-4)?
   a. How effectively were these challenges addressed in two specific cases?
      i. large-scale Ebola Treatment Centres (ETCs) (chapter 3), and
      ii. local-level Community Care Centres (CCCs) (chapter 4).
3. What institutional challenges were raised by spread of markets, mining and the money economy for a rural production system based on marriage and marriage-based labour exchange?
   a. How does the case of "woman damage" illuminate the institutional clash between market and lineage social values (Chapter 5)?
   b. Evaluation of this clash using a multiple regression model (Chapter 5)
4. How can a better understanding of institutional conflicts and incompatibilities be introduced into development theory and practice (Chapter 6)?

Methodological approach

To answer my research questions, it was initially hoped to apply mixed methods (a combination of quantification and qualitative analysis). Quantitative data sets for Ebola are defective due to the conditions under which the case records were collected, and the lack of key social variables. A case-identification questionnaire was completed at the time a patient was admitted to a care facility. The front-line of Ebola response, however, is a highly stressful setting (Walsh and Johnson

2018), and there are doubts about whether form filling during Ebola admission was accurate (International Ebola Response Team 2016).

Electronic national data sets (retained by the Ebola museum and archive at Njala University, used with permission) show many errors and inconsistencies in basic information such as the home community of the patient. The records on Ebola cases are apparently reliable, since they were confirmed by an Ebola laboratory diagnosis, but data on place of origin and infection are subject to many obvious errors and inconsistencies. Other items, such as occupation and ethnicity were not collected.

At least four major quantitative analyses of the national Ebola data set have been published (Fang et al. 2016, Garske 2016 et al., International Ebola Response Team 2016, Krauer et al. 2016). None of these papers offers clear findings on causal pathways, however, beyond the general observation that the epidemic of EVD in Sierra Leone in 2014-15 was marked by heterogeneities.

One study - Fang et al. (2016) - pointed to the possible impact of roads and transport in spreading the disease (a surrogate for market integration). It is also generally agreed that nosocomial infection (infection within medical treatment facilities) was an important factor in the spread of the disease, at least in the early stages. Other inferences – such as the part (if any) played by ethnicity – lack supporting evidence.

Ethnographic observation undertaken for this thesis raised the possibility that upland subsistence rice farming may have played a part in protecting against the disease. Villagers in several places reported that they had reverted to practices of isolation and quarantine associated with bye-gone smallpox epidemics – of moving to the farm hut until the risk of infection had passed.

An exploratory analysis was done for this thesis to follow up proposed connections between Ebola, trade, farming and infection (Fang et al. 2016, Richards 2016). Preliminary results suggested that further quantitative exploration might be worthwhile. However, the work required on compiling and cleaning the national Ebola data set were beyond resources available for this study.

The Ebola case study chapters of this thesis (chapters 2-4), therefore, proceed qualitatively, based on interviews and focus group sessions with affected communities. From this, a range of conclusions is generated about the ways in which institutional variables (such as norms concerning care for the sick or burial procedures) affected the progression of the epidemic.

The applicability of a mixed-methods approach, however, is more fully illustrated in chapter 5. Here, the hypothesis about court cases concerning marriage and labour mobilization in rice agriculture is derived from review of the qualitative (anthropological) literature, and tested, quantitatively, using a multiple regression model.

Qualitative approaches – applying Douglasian institutional theory

In this work the four elementary forms of social ordering of Mary Douglas' theory of institutions are proposed for consideration as causal (independent) variables. The dependent variables are the capacity of local Ebola responders to reduce Ebola infection chains through institutional innovation, or the success of farming groups in maintaining rice production despite increased competition for labour. Chapter 6 considers whether there is evidence in these developments of long-term accommodation between rival institutional orderings.

***Enclave ordering**:*

The study focuses attention in particular on the role of enclave ordering because this is a predominant mode of socio-economic organization in the Sierra Leonean countryside.

The first economic priority in nearly all villages is food-stuff self-sufficiency. Sixty percent or more of the rural population belongs to land-owning patrilineages. Any person (male or female) claiming the name (*Sii*, in Mende) of this lineage can and must be given a share of family land if needed for subsistence.

But few people could make a farm alone. A man will need the help of a wife, or vice versa (a widow with land sometimes asks her brothers to help with the heavy tasks).

A key institutional rule now take effect – lineage exogamy. No one can marry within the same *Sii*. Finding a marriage partner requires an alliance with another patrilineage. The marriage then establishes a lasting bond between the two families. One way this bond is expressed is through a man working on his father-in-law's farm. But the families will support each other in other ways. Sick visiting and funeral attendance are prime ways in which mutual support is expressed.

Mutual exchanges, often symbolized as gifts, facilitate a dense and long-lasting web of inter-family support. Marriage links and obligations form a network of inter-family ties within each village and its neighbours (typically about 40 percent of wives come from village marriage and a similar percentage come from neighbouring villages).

Although each village is linked into a government administrative hierarchy, power in local matters pertaining to land and food lies in the hands of the elders of the lineages. These elders are brought together within the men's and women's secret societies ("*Poro*" and "*Wunde"* for men, Sande for women).

This, in Douglas's terms, is the enclave. It is a social world that can be joined only through marriage. There is much sharing of resources, including labour. The power of leaders tends to be exercised "behind the scenes". Contacts with those outside the system tend to be treated with suspicion. The social form (Douglas argues) is that of a sect – an entity that is hard to join, and hard to leave.

The importance of enclave values is crucial to understanding the local response to Ebola discussed in chapters 2-4. This is because Ebola was spread during nursing or burial of people infected with the disease.

The virus attacked enclave values – the obligation to visit sick in-laws and help bury them (chapter 2). Ebola control, it will be shown, required recognition by responders of the importance of the institutional factors involved in enclave ordering, and the development, with communities, of compromise solutions for the care of the sick and burial activities.

This is illustrated in detail in chapters 3 and 4, where community resistance to Ebola case handling facilities is documented and discussed. Large-scale Ebola Treatment Centres were often problematic because they were located far from family members. Chapter 4 shows how localized case handling in Community Care Centres proved much more effective in gaining the support and trust of villagers with strong commitments to enclave values. Case detection then greatly improved.

However, the other forms of institutional ordering recognized by Douglas - hierarchical, individualistic and isolate ordering - also play some part in the case studies (Bulte et al. 2018), as will now be briefly indicated, before being further commented on in the general discussion (chapter 6).

***Hierarchy*:**

Hierarchy has been an important type of social ordering in rural Sierra Leone since at least colonial times. The British conquered interior Sierra Leone in the late 19th century but had only a handful of officers from Britain to maintain control. Instead they recruited local chiefs and traders as a new cadre of “paramount chiefs”.

Their job was to rule areas with which they were connected on behalf of the British government, under the supervision of a colonial resident district officer, who reported to the governor general. Each chief then appointed (with government approval) sub-chiefs at the level of administrative sections and villages. This hierarchy of governance survives today with some modifications.

Abuses by chiefs were said to have stoked grievance on which the rebels capitalized in the civil war. British aid paid for the restoration of Paramount chiefs and sub-chiefs from 2002. One of the functions of these chiefs was to report to central government any issues that threatened local security. This security function became important during the Ebola epidemic. Some chiefs were effective in translating the institutional modifications required by government and international responders and gaining local support for these unpopular measures (Richards 2016). Others were less effective, and sometimes sided with the people in opposing regulations enforcing quarantine and imposing “safe burial” measures.

A major feature of chapters 2 to 4, focused on Ebola, is the evidence of clash between hierarchical and enclave ordering. This clash is identified as one of the basic problems that had to be solved to institute effective Ebola control.

Competitive individualism:

Market integration is an increasingly important aspect of life in rural Sierra Leone. The spread of a money economy has fostered a degree of competitive individualism.

Ebola brought out a clash between enclave and hierarchical modes of social ordering. A second area of clash is identified between enclave ordering and competitive individualism.

Many people, interviewed about the role of markets in their lives, will make statements like "*everyone looks for money today*", but will go on to explain that they are looking for money to help support children, parents and in-laws.

Markets were closed for the duration of the Ebola epidemic, but as illustrated in chapter 2 these bans were only partially effective.

An association between markets and Ebola cases has been mentioned above and is one of the few definite trends apparent in previous analysis (Fang et al. 2016, Richards 2016).

Tensions over market integration are explored in this thesis in regard to Ebola in chapter 2 and via the mixed methods analysis of marriage and labour as factors in food crop farming in chapter 5.

***Isolate ordering*:**

Who in this study are the isolates? About 20 per cent of men in rural Sierra Leone are classed in local terminology as "*strangers*". This is a formal categorization, indicating that they are living outside their chiefdoms of birth.

Strangers are dependent for access to land on the support of a "host" (or in Mende *hota kee* – their "*stranger-father*"). If they have a case in a local court, the host must plead on their behalf. They are undoubtedly under high "grid" constraints. They also have limited social integration. Some would never marry, unless a host helped them find a wife.

The origins of this "*high grid-low group*" class are mixed. Some arrived as migrant labourers, maybe escaping a court case or debt in another district; others may have descended from slave families.

Their importance in this study is that they keep alive a social memory of a kind of organization especially useful in times of great difficulty. This is the idea of retreating to the farm and focusing only on staying alive until the danger passes.

One European visitor to part of northern Sierra Leone in the 1840s (Thomson 1846) described how after a locust plague the landlords of the Great Scarcies valley left their own villages, where they lived as traders, to reside temporarily with the camps of their farm slaves in the bush, because the slaves had better reserves of food.

Farmers threatened with rebel attacks during the recent civil war likewise left the more accessible villages and opened up farm camps in "corners" in the bush to escape attention from marauders (G. A. Mokuwa 2015).

Interviewed about Ebola, a number of focus group participants (this study) reported that in the olden-days families would handle smallpox cases by taking them to the farm hut, and quarantine them there. Some reported that they did something similar with Ebola. They headed for their farms until cases subsided. The local name for the disease in Mende was "*bondawotei*" - literally "*family turn around*". Maybe this can be understood as an appeal to suspend enclave values for now. The availability of isolate ordering as a kind of default position helps explain the role of local self-imposed quarantine in limiting the epidemic.

As chapter 5 shows, it remains available as an option for socially detached persons in the countryside, but one which many young people in rural areas now reject.

As discussed in chapter 6, combatants who took up commercial motorcycle taxi riding after the civil war exemplify some of the virtues of competitive individualism, even though it remains to be seen how successful they will be in compromising with the rural elders who maintain the enclave system of social ordering.

Notes on methods

Methods used are described in more detail in each of the four main chapters. The following paragraphs offer a general overview:

In this thesis four main methods were used to collect data:

1. Focus groups (Chapters 2, 3, and 4)
2. Questionnaires (Chapter 5)
3. Key informant (in-depth) interviews (Chapter 4 and 5)
4. Participant observation, including observation of body language (Chapters 2, 4 and 5)

Focus groups:

Focus groups were used in chapters 2-4, specifically to assess group responses regarding the Ebola epidemic. A protocol was developed. Chiefs of villages were briefed and then informed villagers about the visit of the researcher and her team. All villagers were invited to attend, but according to specific groups. Separate groups were organized for male and female chiefs and elders, for adult men, for adult women, and for youths (males and females who were not yet considered to be fully adult – in Sierra Leonean villages this is more a matter of social status than age, and some "youths" were in their 30s). The group for elders might, typically, be attended by five to ten people, other groups were often somewhat larger. Having self-sorted into appropriate groups, focus groups were run simultaneously, to prevent ideas "*leaking*" from group to group.

Each group was assisted by two facilitators. Facilitator 1 led the discussion, using a list of prompts of topics where conversation flagged. Facilitator 2 logged the discussion, observed body language and any signs of distress among members of the group where emotive and sensitive topics were broached, and ran a card system through which members of the group signaled their intention to speak.

An informed consent form was read to and agreed by participants. They were told their comments would be anonymous. The speaking-order cards ensured we could identify the type of person speaking and where in the overall conversation their remarks figured, without breaching anonymity.

The second facilitator might record against a comment "female, about 45 years, groundnut farmer", but not the person's name. This gave us the means to analyse who spoke, and how often, and in what order they spoke (to see if certain types of persons dominated the discussion, or remained silent, and whether they were the

first to make a particular point or preferred only to endorse comment made by others). This gave us a good picture of conversational dynamics.

Many of the focus groups were undertaken during the Ebola epidemic and facilitators were trained to watch out for emotive topics or vulnerable persons (e.g. members of families suffering Ebola bereavement, members of survivors or survivors) and to respond accordingly (e.g. to allow the person to leave, or to stop the discussion).

Questionnaires:

A survey covering key household variables (farm size, land tenure arrangements, labour availability, etc.) carried out in 182 villages surrounding the Sierra Leonean Gola Forest is used as the basis for regression analysis in chapter 5. Fifteen household heads were randomly selected per village. It was considered important to involve villagers in sampling. In the court barrie (an open-sided meeting place) all household heads' names were written on paper slips, and then placed in a cap in presence of all community members. Fifteen children were asked to select one folded paper each from the cap. The heads of each of the fifteen households were then interviewed.

The negative side of this sampling method is that most heads were male. Other adults in the household – whether females and other adult males (many of them youths) - were not sampled. This means important data may have been missed, e.g. on women's personal farms.

Some of these questionnaire data were also used in chapter 2, e.g. to examine marriage networks among villages, and to assess levels of trust in public authorities.

A separate set of questionnaires, based on modules from the household level instrument used in the Gola Forest study, to which were added questions on use of health facilities and on health expenditures, and on knowledge, attitudes and practices relating to Ebola Virus Disease, were applied to quotas of adults (50% male household heads, 50% adult women, both randomly sampled) in 26 villages in central and eastern Sierra Leone in December 2014 (n = 720). The findings were presented on the Ebola Research Anthropology Platform (www.erap.co.uk) during the epidemic and used selectively in chapters 3 and 4.

In-depth interviews, and key informants:

In-depth interviews were held with key actors in the outbreak response, including chiefs and medical personnel (chapters 2 to 4) and with persons involved in "woman" cases (chapter 5). Interviews were undertaken in the Mende language, after informed consent.

***Participant observation, including body language*:**

Participant observation was undertaken to only a limited extent for the chapters relating to Ebola. The writer gathered data by taking part in activities likely to lead to insight into some of the research questions where possible. This included societal activities, dancing and participation in communal meals. Many of these activities were restricted under Ebola byelaws, but in places the writer made use of her participatory experiences prior to Ebola, when leading the survey team collecting household data for 182 Gola Forest-edge villages for example.

Participant observation allows the researcher to collect data on expressive activities in which language is not used or is not a major part of the activity. In effect, the observer is paying attention to body language as a distinct form of

communicating; when people speak, they often include gestures, and others can make side comments or indicate agreement or disagreement by gesture and look.

The writer often undertook this observational activity while the teams were busy with focus groups. It was sometimes useful in indicating areas of skepticism not made explicit in focus group discussions. A member of each focus group team was also assigned to write down any side comments elicited on the margins of the group meeting.

Overview of the thesis

Chapters 2-4 look at the role of institutions in the context of EVD. The institution of marriage, and the social obligations entered into through marriage, are shown to play a major role in Ebola infection control. For comparison, chapter 5 shifts the context to agriculture. Here the role played by marriage in mobilization of agricultural labour is examined, and questions are asked about ways in which institutional "*free riders*" are deterred.

Villagers found it very hard to follow government-mandated rules for control of EVD because these clashed with their ways of maintaining local social values based on marriage.

Why was care for the sick by family and friends such a problem? This is because EVD is spread not on the air but by touch. Any contact with the body fluids of an infected patient risks transferring the disease. Medical authorities wanted people not to touch the sick at all. But caring for the sick (locally) is seen as an obligation for those linked by marriage.

For villagers, reducing social care increased their sense of danger. Outsiders were afraid of infection with the virus, but villagers were more afraid of betrayal. So,

villagers and medical responders found it hard to understand the priorities and concerns of each other in regard to the Ebola issue.

Analysis in chapters 2-4 brings out how these institutional challenges adversely affected Ebola control. Government imposed specialist burial teams and closed markets. Locally, people refused to abandon funerals and tried to find ways around the ban on markets.

Better solutions were found when provision was made for family members to witness Ebola burials, and when a home care protocol was introduced on how to care for a patient while waiting for medical help. Community Care Centres, introduced from November 2014, provided a link between family values and Ebola regulations (see chapter 4). These processes of institutional adjustment and accommodation form a major topic in chapters 2-4, especially chapter 4.

Clashes over competing institutional values are not restricted to the sphere of public health. Chapter 5 shows that similar clashes occur in agricultural resource mobilization. The chapter adds on the topic of marriage by showing how village marriage ties also support agricultural labour mobilization. Local attempts to solve a “free-rider” problem in rural marriage led to social exclusion of young males who then became a violent threat to village society.

Chapter summaries

Chapter 2 – Social Pathways for Ebola Virus Disease in Rural Sierra Leone, and Some Implications for Containment

This chapter was written in September 2014 when it became clear the outbreak was now an epidemic, and no longer a localized outbreak. It was an attempt to summarize social factors involved in the more general spread of the disease. Attention is drawn to the importance of human contact in infection and to the tendency for the disease to spread along roads and branch off into the countryside, due to patients, escaping nosocomial infection in government health facilities, seeking traditional "cures" in distant and inaccessible home villages. An outbreak of EVD in a busy roadside market (Moyamba Junction) is also documented as evidence that markets spread the disease. Institutional factors such as marriage and funerals are "flagged" for attention.

Chapter 3 – Trust, and distrust, of Ebola Treatment Centres: A case-study from Sierra Leone

This chapter describes local responses to an Ebola Treatment Centre introduced in Kenema to cope with the aftermath of the outbreak in Kenema government hospital. It is shown that the ETC evoked negative local responses. Scepticism and confrontation were widespread at the outset but misunderstanding was replaced by later positive assessments. Workers in the ETC, survivors and families who had members taken to the facility learnt rapidly from the experience. Relatives subsequently agreed that the ETC was valuable. However, the chapter present evidence of continuing skepticism in the minds those who had no direct experience of the disease. Some of these people continue to suspect that Ebola was a crisis manufactured for external benefit. Cognitive shock caused by a well-

funded Ebola health initiative arriving in communities with a long history of inadequate public health care is confirmed.

Chapter 4 – Rural populations exposed to Ebola Virus Disease respond positively to localised case handling: evidence from Sierra Leone

Local Community Care Centres (CCCs) for Ebola were designed to meet villagers objections to hierarchically-imposed Ebola treatment and to encourage early identification and treatment of Ebola cases. Fourteen villages in seven chiefdoms (five from the north and two from the eastern part of Sierra Leone) were visited to evaluate the impact of Ebola treatment on local communities. Local communities found the ETCs hard to accept because they clashed with enclave. Families wanted to care for the sick, and carry out traditional funerals, thereby fulfilling obligations to their in-laws. From November 2014 international responders accepted a need for change in approach. ETCs were supplemented with CCCs built closer to the communities These were intended to serve as triage centres for referral of those who tested positive for Ebola. Ebola positive patients were quickly separated from other patients, and these other patients were treated for sicknesses such as malaria and typhoid and discharged. The CCCs were small, constructed with local materials, and staffed locally; communities embraced them as serving local needs other than Ebola. Delays sometimes occurred in transferring Ebola patients, and these cases were handled in situ, but without the breakdown in infection control predicted by some international experts. Evidence in the paper shows that while rural people had major problems with ETCs their own values were better accommodated in the CCCs.

Chapter 5 – Peasant grievance and insurgency in Sierra Leone: judicial serfdom as a driver of conflict

In the last case-study chapter the perspective is broadened to food security. The chapter specifically considers the role of marriage in upland rice farming. The gift of a woman from one lineage to another is repaid by bride service. What happens to "*free-riders*" in this interwoven system of marriage and work? Young men – typically outsiders, or returnees from the diamond mines – find sexual relationships where they can. This poses a threat to enclave institutional ordering. Typically, the "*free riders*" are charged in local courts. The chapter looks more closely at patterns of these cases in typical Mende villages in eastern Sierra Leone. Regression analysis suggests a strong association with seasonal farm labour shortages.

Chapter 6 – Conclusion

The final chapter considers more generally the way in which institutional clash can be mapped and reduced. Overall, these chapters illuminate some of the complexity of institutional orderings in rural communities. Debates between North, Williamson and Douglas are revisited. Mary Douglas explicitly rejects North's characterization of development as a process in which informal institutions are replaced (historically) by formal institutions. According to Douglas different institutions have different strengths and weaknesses. Over-reliance on one organizational form can lead to instability, and clash of institutional values. Different organizational styles can complement each other and contribute to institutional robustness.

A note on the format of the thesis

In addition to the introduction (Chapter 1) and a final discussion (Chapter 6) this thesis comprises four chapters (chapters 2 to 5) that have appeared as papers in the journals *PLoS Neglected Tropical Diseases*, *PLoS One* and *African Affairs*. As each paper went through the editorial process for these journals, I was asked to shorten it or make changes including removal of aspects of general arguments needed for the thesis, especially material relating to my overall explanatory framework, which derives from the institutional theory developed by Mary Douglas. These theoretical aspects are now discussed mainly in this introduction (above) and in Chapter 6, but I wanted to indicate to the reader the part the arguments played in the original versions of each of the empirical chapters, before they were edited for publication. I have therefore made a brief summary of some of the main theoretical points in a set of four bridge passages which I have now placed to join the chapters of the thesis. I hope these will serve as reminders to the reader of the general argument illustrated by the four empirical chapters.

2

CHAPTER 2

Social pathways for Ebola Virus Disease in rural Sierra Leone, and some implications for containment[1]

INTRODUCTION TO CHAPTER 2

Sierra Leone is a post-colonial country. It became independent in 1961, but the pace of development has been slow. Economic development was slowed by the civil war from 1999-2002 and by the Ebola epidemic of 2014-15.

The thesis examines institutional challenges arising from the civil war and from the Ebola epidemic. Both the war and the epidemic started in rural areas of Kailahun District. The thesis describes why this was so, and how it was necessary to take into account rural institutions to bring peace and end the epidemic.

Using the theory of institutional ordering proposed by the anthropologist Mary Douglas this thesis emphasises the importance of what Douglas terms "enclave social ordering" for the functioning of rural communities.

How a "*clash of institutions*" can arise between enclave ordering, and two other important types of social ordering in Douglas' theory – hierarchy and competitive individualism – has been explained in Chapter 1. The empirical part of the thesis is based on four case-study chapters, three of which examine the Ebola epidemic in Sierra Leone (2014-15) and one of which looks at an earlier crisis – the civil war from 1991 to 2001.

The present Chapter 2 provides an introduction to Ebola Virus Disease. This was a new kind of institutional shock in Sierra Leone. Ebola spread across the border from Guinea into Kailahun District in early 2014. The first cases were in Kissi Teng chiefdom, one of the rural nodes from which the civil war had spread two decades earlier. The causes of this war will be discussed more fully in Chapter 5.

Some of the first Ebola cases were taken to Kenema, the main provincial town in eastern Sierra Leone. A large hospital-based (nosocomial) outbreak of Ebola then occurred at the government hospital in Kenema. This resulted in many people viewing Ebola as a "*government disease*". The government tried to contain the spread of infection from the eastern part of the country by deploying army and police to block roads.

The same "*hierarchical*" solution had been attempted to block the spread of conflict during the civil war. It did not work for Ebola any more than it had worked for the spread of conflict since there were many back tracks known both to rebels and citizens of the town, and people could evade the army controls.

The published version of Chapter 2 was written at the time the epidemic was taking off in the country in mid-2014, and traced what happened when one man escaped from Kenema to seek treatment from his relative, a herbalist in a remote interior village in the centre of the country. The chapter describes the epidemic in terms of a pendulum effect – cases swing into the countryside and spark localised outbreaks due to a tradition of rural self-reliance in health (something analysed in chapters 3 and 4 as an aspect of enclave social ordering) and then swing out of the countryside and back towards the larger towns, passing along the main roads via local market centres.

The paper added evidence that trust in higher levels of government hierarchy was weak. It argued that control would require involvement of the most trusted local authorities – the rural chiefs – and recognition of the role of families in disease prevention. The paper appeared in pre-peer review form on the website of the journal *Neglected Tropical Diseases* in October 2014, as one of the first accounts of the epidemic in Sierra Leone taking social analysis into account and was published after peer review in April 2015.

In the present thesis Chapter 2 provides descriptive background for two chapters (numbers 3 and 4) that examine how Ebola treatment was organised. Douglas' theory guides both these chapters, but discussion of theory was removed at an editorial stage, due to length, and bearing in mind the needs of an inter-disciplinary audience of practitioners. These theoretical aspects are reintroduced in this thesis by short prefaces to each chapter.

These items point out where Douglas' theory is relevant to the analysis of the clash between hierarchical ordering of government and international Ebola responses and the enclave ordering of family health care in rural communities.

Chapter 5 looks at a second institutional clash – this time between the enclave ordering of household subsistence production and the competitive individualism of rural labourers familiar with markets and money in towns and mining camps. This clash (it is argued) fed recruitment to the rebel forces in the civil war. Chapter 5 is also prefaced by a short introduction pointing out consistency with Douglas' theory.

CHAPTER 2

Social pathways for Ebola Virus Disease in rural Sierra Leone, and some implications for containment[1]

Paul Richards[a, 2], Joseph Amara[a], Mariane C Ferme[b], Prince Kamara[a], Esther Mokuwa[a], Amara Idara Sheriff[a], Roland Suluku[a], and Maarten Voors[c,d]

[a] Njala University, Sierra Leone
[b] University of California, Berkeley, United States of America
[c] Wageningen University, The Netherlands
[d] University of Cambridge, United Kingdom

Abstract

The current outbreak of Ebola Virus Disease in Upper West Africa is the largest ever recorded. Molecular evidence suggests spread has been almost exclusively through human-to-human contact. Social factors are thus clearly important to understand the epidemic and ways in which it might be stopped, but these factors have so far been little analyzed. The present paper focuses on Sierra Leone, and provides cross sectional data on the least understood part of the epidemic - the largely undocumented spread of Ebola in rural areas. Various forms of social networking in rural communities and their relevance for understanding pathways of transmission are described. Particular attention is paid to the relationship between marriage, funerals and land tenure. Funerals are known to be a high-risk factor for infection. It is suggested that more than a shift in awareness of risks will be needed to change local patterns of behavior, especially in regard to funerals, since these are central to the consolidation of community ties. A concluding discussion relates the information presented to plans for halting the disease. Local consultation and access are seen as major challenges to be addressed.

[1] Published in *PLoS Neglected Tropical Diseases*, 2015.
[2] Corresponding author: paul.richards@wur.nl.

Beyond zoonosis

The present outbreak of Ebola Virus Disease (EVD) in Upper West Africa is the worst ever recorded. As of late December 2014 there were 6808 confirmed EVD cases (NERC 2014) and there are no clear signs of the disease coming under control. The international community is alarmed, and resources are being rushed to the region to try and stem further spread. The epidemic is an outbreak of the Zaire strain of the virus (Gire et al 2014), previously associated with death rates of up to 90 per cent. Death rates in the Upper West African outbreak average 70 percent (WHO 2014).

The epidemic has been traced to a single index case - the infection of a 2 year-old boy in the village of Meliandou, in the Republic of Guinea (Baize et al 2014, Bausch and Schwarz 2014). Previous outbreaks of the disease have occurred in remote forest edge communities, , e.g. in the Democratic Republic of Congo and Gabon, and have been associated with hunting and eating of bush meat, though human to human transmission also occurred, especially via hospitals. The bush meat scenario is thought to explain the index case, but thereafter appears not to be appropriate for the present epidemic. Human-to-human transmission appears to be the main if not sole source of infection in Liberia, Guinea and Sierra Leone.

In this paper we offer some data and observations relating to the Sierra Leone epidemic (Figure 1). If human-to-human contact is the main mode of transmission attention needs to be paid to underlying social factors. The paper is divided into three sections. A case-study based scenario for the spread of EVD in Sierra Leone is described (based on interviews and direct observations). We propose that greater attention should be paid to rural buffers for the disease. We then identify and explain the role of processes related to marriage, land and burials significant

for spread of the disease. A concluding discussion considers what assistance might be necessary if rural communities are to reduce transmission rates.

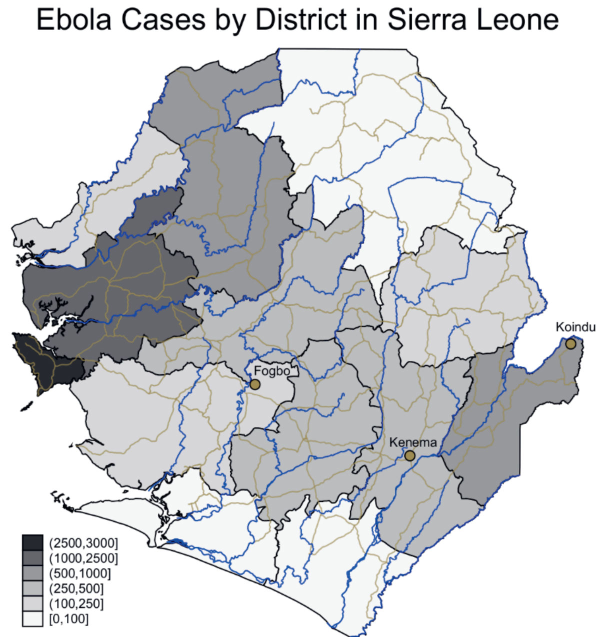

Figure 1: Confirmed Ebola cases by district

Notes: Ministry of Health and Sanitation, Situation Report 17 December 2014 (S1 Dataset, from http://health.gov.sl/). Figure plots all confirmed Ebola cases by district as of 17 December 2014, and main rivers and roads.

A case of EVD transmission

Fogbo is a Kpa-Mende settlement located on the Taia river about 12 km. north of Taiama, the headquarters town of Kori chiefdom, in Moyamba District (Figure 2). Reachable only by track, the village has a population of about 500 people, larger than average for the region. Reports of Ebola in Fogbo filtered into Taiama in early August. The Community Health Officer visited the village and took a blood sample from a man suspected of having the disease.

The health worker also ascertained that the case was connected to an outbreak in Daru (Kailahun District). Ebola had reached Daru when a wife of the Paramount chief (see Box 1) visited her sick sister, the wife of the Paramount Chief of Kissi Teng, the chiefdom including Koindu market on the Guinea border. A boy infected in the town of Daru came to Kenema, to visit his father. During the visit the young man began to develop symptoms, was taken to hospital, tested positive, and died.

Prominent women in the community insisted a Sowei respected by her society should be given a fitting burial, so they washed and buried the body. Corpse washing is an important part of local rituals for the dead.

Thereafter, the wife of the town chief was stricken with EVD and died. Since then 16 women and one man have died, all apparently of EVD. By early September it was reported that somebody in the village was dying every day, and there was nobody to bury the corpses. Local officials sent a message that if the villagers buried the dead without the consent of the government the people would be fined or imprisoned. The Fogbo people waited for the burial team to come. The team had still to reach the village three weeks later.

By this time many people had left the village and gone to live on their rice farms. These farms, often several kilometers from the village, are equipped with simple shelters against the rain, where meals are prepared. More distant farms have special sleeping platforms. Retreating to the farm for days at a time in August-September is normal, since this helps protect the ripening crop from bird and rodent damage, and deters human thieves.

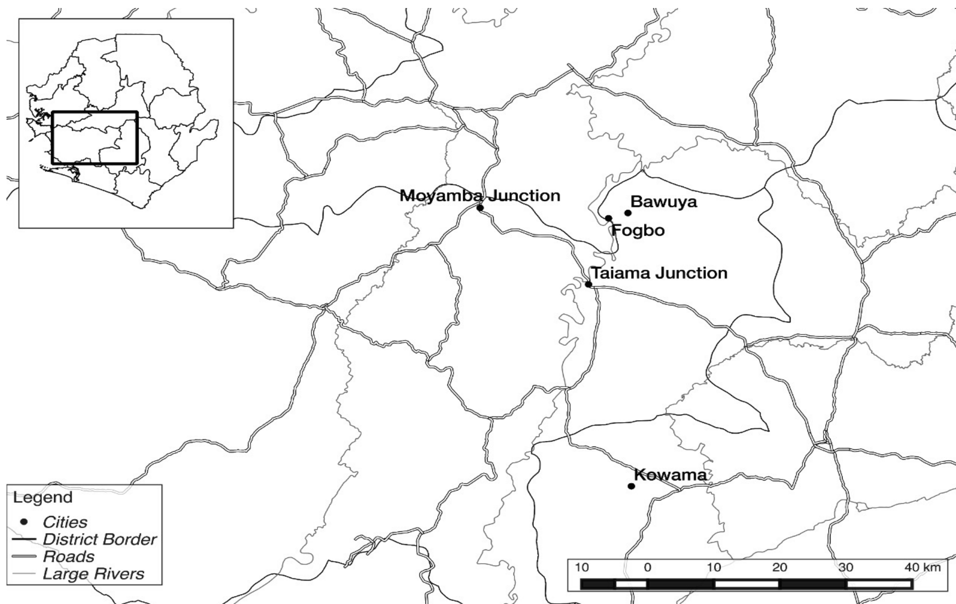

Figure 2: **Case Study Villages**
Figure plots case study villages, and main rivers and roads. Notes: S2 Dataset

Meanwhile, attendance at the woman's funeral had spread the virus to neighboring villages - Kowama and Bauya, where four people died, and six more were evacuated to an Ebola treatment facility in Kenema. Some of those infected in Kowama sought help from a retired pharmacist in the busy main-road trading center at Moyamba Junction, where the national "lockdown" called in September 2014 revealed both cases and bodies. One schoolteacher in Moyamba Junction died of Ebola at his home in Mile 91, a larger trading location 16 km along the main road to Freetown.

As of 20th September six people in Moyamba Junction had died and others were sick. The case figured on the radio during the government's lockdown period (19-21st September) intended to facilitate tracing of hidden cases of Ebola. It was then reported many people had abandoned Moyamba Junction, perhaps fearing to be quarantined.

The Fogbo case seems typical for the Sierra Leone epidemic, where the disease has moved at times in large jumps along the main road system, passing from town to town, but at other times diverts into the interior to infect isolated villages, where it is little noticed, reported or acted upon, only then to burst out again in a larger town or market center. This pendulum swing between roadside locations and buffer villages in the interior needs to be stopped. Developing effective strategy for this will require close attention to the social factors that allow, or encourage, the virus to spread in more isolated villages.

Social factors involved in rural Ebola outbreaks

The Fogbo case introduces a number of important social factors in Ebola transmission - notably, the role of the family, marriage, funerals, migration and markets. In this section we focus on each of these factors in turn, and offer some specific data about these variables. The aim is to draw attention to issues to be considered if Ebola control is to be achieved.

We rely on data collected over the past four years during multiple rounds of detailed rural survey work intended to assess levels of rural institutional change in the post-civil war period. Four sources are used: (i) a study of household structures and food security in three isolated communities in northern Moyamba District adjacent to Fogbo, undertaken in May-June 2014, (ii) a national random sample of 2200 rural households in 117 villages in 47 chiefdoms undertaken in 2014 (S1 Dataset), (iii) a survey of 91 villages in 7 chiefdoms around the Gola Rainforest National Park in Kenema, Kailahun and Pujehun districts undertaken in 2013 (S2 Dataset), and (iv) a survey of 187 village communities and 2460 households undertaken in 2010 in the same region (S3 Dataset).

Family

Sierra Leonean farming villages are impoverished but self-reliant. This self-reliance was always been a central feature of rural life and was boosted by the civil war in the 1990s (ended in 2002), during which the state withdrew even further from the countryside. In our national survey (S1 Dataset) we included a module asking heads of rural households to assess their degree of trust and reliance in various kinds of institutions.

In Figure 3a, we present data on how respondents rate their trust in various institutions. The data show that while overall trust is high, inter-personal relations are perceived as more trustworthy than those with institutions beyond the local level. Trust is highest in household members and extended family. Conversely (at the local level) there is a noticeable distrust of "strangers" (persons born outside the local community). Thereafter there is a general decline in trust as the scale of the institution expands beyond the local level. Trust in central government, however, is above the trend.

When we asked about assistance (to whom would the person interviewed turn for help, Figure 3b) the pattern was somewhat different. As the scale of institution increases outwards there is a steep decline in confidence in help coming from beyond the family. Central government is no longer above trend. In effect, rural people, across the country, seem strongly to expect to find assistance mainly their own immediate family group. In a crisis, it is sensible to head for home.

This finding seems relevant to understanding the Ebola epidemic. Respect for and trust in authority is quite high. It is highest for local authorities but also reasonably high for central government. Most communication around Ebola has been from chiefs, district council representatives, parliamentarians and ministers.

There is some indication that these messages have been effective in changing awareness at the local level. In an August 2014 survey conducted in seven districts, most people said they now believed the Ebola epidemic is real, and that Ebola cases should be isolated in hospital (Focus 1000, 2014).

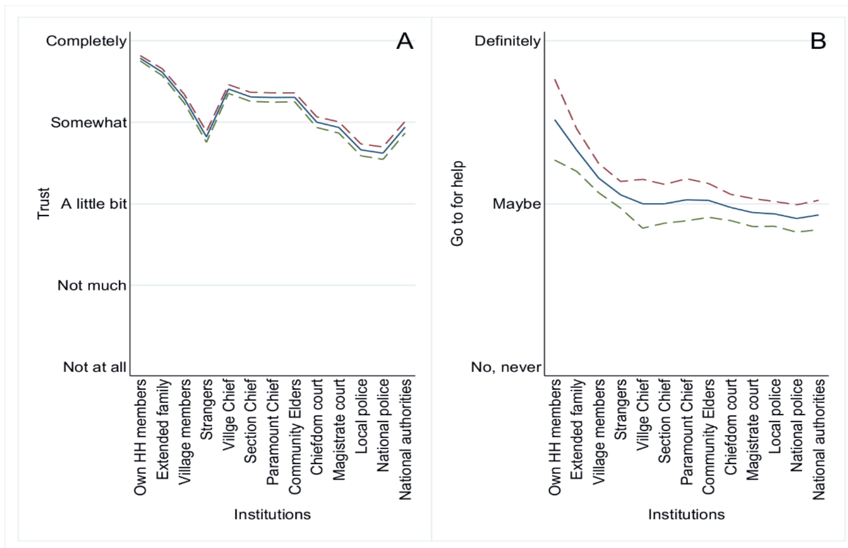

Figure 3A, B: Trust and seeking help by type of institution.
Notes: ABC Household Survey (S3 Dataset), 2200 respondents in 117. The graph plots mean response and 95% confidence interval upper and lower bound. Panel A asks respondents "How much do you trust [institution]?", responses are on a five point scale ranging from "Not at all" to "Completely". For Panel B, respondents are asked "If you were in trouble, would you go to these people for help?", responses are on a three point scale ranging "No never" to "Definitely".

But there is also a widespread impression that little can be done by health professionals to alleviate the disease. The different curves in our data on trust and reliance capture the tension between what people say, and what they actually do. They say they would seek assistance from a hospital, but in practice they hesitate to go. Of course, poverty and distance and poor transportation are an important factor in explaining why people fail to seek health care at state institutions. At the

same time, in the final instance it is the family, the most trusted source of reliable assistance, that will help them cope. As is apparent in the Fogbo case, the move by an Ebola sufferer back to an isolated rural home then buffers the spread of the disease.

At present, attention is focused on local opinion leaders (Muslim imams and Christian pastors) to help change attitudes, to reduce the threat posed by burials, and to bring Ebola cases into isolation facilities. These figures are, indeed, widely respected. But there is also scepticism among villagers about whether these opinion leaders can provide practical help. If an Ebola victim in a rural village is to be brought to an isolation facility it will be the family that makes the arrangements and does the work. Our data suggest that assistance should also to be targeted on rural families.

Marriage and funerals

This then implies a need to understand Ebola risks from the perspective of family, and its notions of inescapable social obligations. This includes obligations to both the dead as well as the living. In the first instance, this double obligation arises from the system of access to land, the basic resource for survival in a peasant agrarian economy.

Sierra Leonean ethnic groups are predominantly patrilineal. Villages are formed from several patrilineal groups (typically, perhaps, 4-10 per village). Each group maintains a shared right to land for farming, and generally occupies a specific quarter within the settlement. There may be some ancestral graves or a family shrine within the quarter.

In Mende-speaking communities such as Fogbo, not all residents of a quarter, however, are members of the patrilineage (Little, 1951). Recent surveys (May-

June 2014, details above) for three villages in northern Moyamba District, in the general neighborhood of Fogbo show that only about 40 percent of residents of each quarter belonged to the patrilineage. This is because lineage exogamy is the norm in rural Sierra Leone, and wives resident in a family quarter will come from outside the husband's lineage.

Some wives come from other lineages in the village, while others come from other villages. Most of these outside marriages are local, but some link distant communities. This is especially likely with ruling families (lineages with a recognized right to compete for chieftaincy). Historically, ruling families consolidated power by making advantageous unions (Murphy and Bledsoe 1978, Mokuwa et al 2014). This practice continues today and is relevant to the story of the spread of Ebola.

In-marrying women from other villages will be termed "stranger" (hota, in the Mende language spoken in Fogbo). While married such a woman can access land for farming from her husband's lineage, and if she becomes a widow she will be strongly encouraged to take another husband from the same lineage (through the institution of levirate, see Box 2). But if she rejects this option, or the marriage fails and (especially) if there are no children, a hota wife may be required to return to the village where her brothers maintain their own land rights.

This concern to avoid merging of lineage land rights through marriage is especially strongly maintained where marriage takes place between ethnic groups, in places such as Fogbo, which stands on the border between the Mende and Temne speaking areas. Funerals are important not just to mark the passing of the deceased but also as part of the process of "unmaking" a marriage at death, so that

families can publicly reassert their land rights and decide whether a union is to be continued (to be "remade" through levirate marriage) or is to be finally dissolved, with the woman returning to her own natal community.

To carry out a funeral properly a number of things need to happen. The corpse has to be washed, and this is thought to be an especial point of danger for Ebola transmission. Men wash men's bodies and women wash women's bodies. The women will include the deceased woman's sisters, and this risks spreading the Ebola virus to other lineages and (where the woman was hota) to other villages.

Where a man died, the wife then has to have her head shaved and be covered with mud formed from the washing of the husband's corpse [10: pp 94-97]. This is part of a ritual that frees her from the attentions of the dead husband's jealous spirit, and prepares her to be remarried to one of his brothers, or to return to her own family. This also seems a likely high risk factor for Ebola transmission.

Where the deceased is an in-married hota wife it may be necessary for the corpse to be returned to her family living in another village. This is a possibility where the marriage payments are not yet complete. A relationship begins upon agreement that certain gifts and services will be provided for the parents and family of the woman by the husband in recognition of that lineage's gift of a bride. Certain offerings are made to initiate the relationship, but the marriage is incomplete until everything promised is fulfilled. A prospective son-in-law offers labour and material help to his partner's parents for many years before he can say the marriage is complete.

In the case of incomplete marriage, the male partner will first travel to the dead wife's village to make a settlement of outstanding marriage payments before being permitted by her patrilineage to bury the corpse. If he is unwilling or unable to

pay, he loses the right to control the burial arrangements, and his wife's family are also within their rights to claim the children from the marriage. Only when settlement is reached can the man presume to bury his wife in his home village. But if he is unwilling, or cannot, settle the debt the corpse will have to be returned to her own patrilineal kin for burial. The task of transporting the body will fall to men, probably using a hammock, and is obviously a highly risky practice where Ebola was a cause of death.

How frequent is the problem? Incomplete marriage is far from uncommon. In the study of three villages mentioned above data were collected on 79 current marriage partnerships (see Richards and Mokuwa 2014). In 62% of cases the female partner was a stranger (that is, came from another village). These stranger marriages were in most cases incomplete, the marriage payments were only fully finalised in 16% of cases (The figure was even lower for citizen marriages [***tali***] – that is, between lineages from the same settlement).

Without funerals, orderly access to farm land for staple rice production - a key survival requirement for rural families - is seen to be at risk. Land is currently an especially sensitive issue due to numerous sales and leases to mining and agri-business concerns. This helps explain the tenacity with which villagers defend funeral practices, despite official injunctions on unauthorized funerals, imposed as an Ebola infection control measure. The Fogbo people waited some time for an official burial team, but when trained workers failed to appear they did what they felt necessary to protect their family concerns. They washed and buried the corpse as the dignity of the deceased woman demanded. Thereby lineage rights, land tenure, and inter-family and inter-village relations were maintained, even though Ebola spread.

Migration

The Fogbo case study brings out the importance of long-distance social networking resulting from migration, and the importance of trading patterns and market centers. Here we assess these risk multipliers in terms of data relating to typical patterns of village inter-dependency, based on motivations for labor, education and marriage migration, and distance to markets.

Villages are not independent units scattered across the landscape, nor is it the case that villages all fall into a system based on a clear functional hierarchy of administrative or market centers. The landscape of rural Sierra Leone bears the marks of a long, complex, and often violent, history. This heritage is apparent in physical markers, but also in rather complex patterns of local social interaction.

Old inter-family animosities (some revived by the recent civil war) still disrupt local interaction. Neighboring settlements may, for instance, be old enemies, and might not readily cooperate over sharing facilities. This has particular relevance to the siting of local Ebola holding centers. Equally, unexpected patterns of cooperation link more distant communities, in the case of trading relations and marriage alliances. These patterns, hard to anticipate without detailed local knowledge, influence the spread of Ebola, blocking it in some areas, but in other areas opening up unanticipated channels of infection. Cross-border family-based and market networking among Kissi-speaking settlements divided by colonial boundaries into three separate states (Guinea, Liberia, and Sierra Leone), has been a major factor behind the rapid build-up of the disease in its epicenter.

Textbox. Caretaker Husbands

In Mende villages, no woman lacks a husband. If she is a widow she will expect to have a caretaker husband. This husband is not necessarily resident with the woman or in any kind of sexual relationship. He serves as the socially recognized figure needed for certain kinds of ritual transactions, especially those surrounding death and burial. The caretaker husband is less active when the woman is alive, but when she dies, he is the one the town chief and elders of the town will look up to for the funeral ceremony. The caretaker husband will have to contact the relatives of the dead woman before any action is taken. If the relatives have to come, they will be in the care of the caretaker husband, and it is this husband who will have to convey the corpse of the deceased to her home. So the chances of a caretaker husband contracting Ebola are likely to be high. In the case of incomplete marriage, tradition decrees that the close male relatives of the husband (those who would normally negotiate and convey the marriage payments) take charge. In case they are no longer alive the elders of the husband's family will assume responsibility for the funeral ceremony, because they are the ones that begged for the life of the daughter from the relatives to give to their son. If women are at high risk from nursing patients with EVD and washing widows men have high chances of contracting the disease in matters regarding the inter-village transfer of corpses.

Source: RS, field-notes August 2014, edited PR

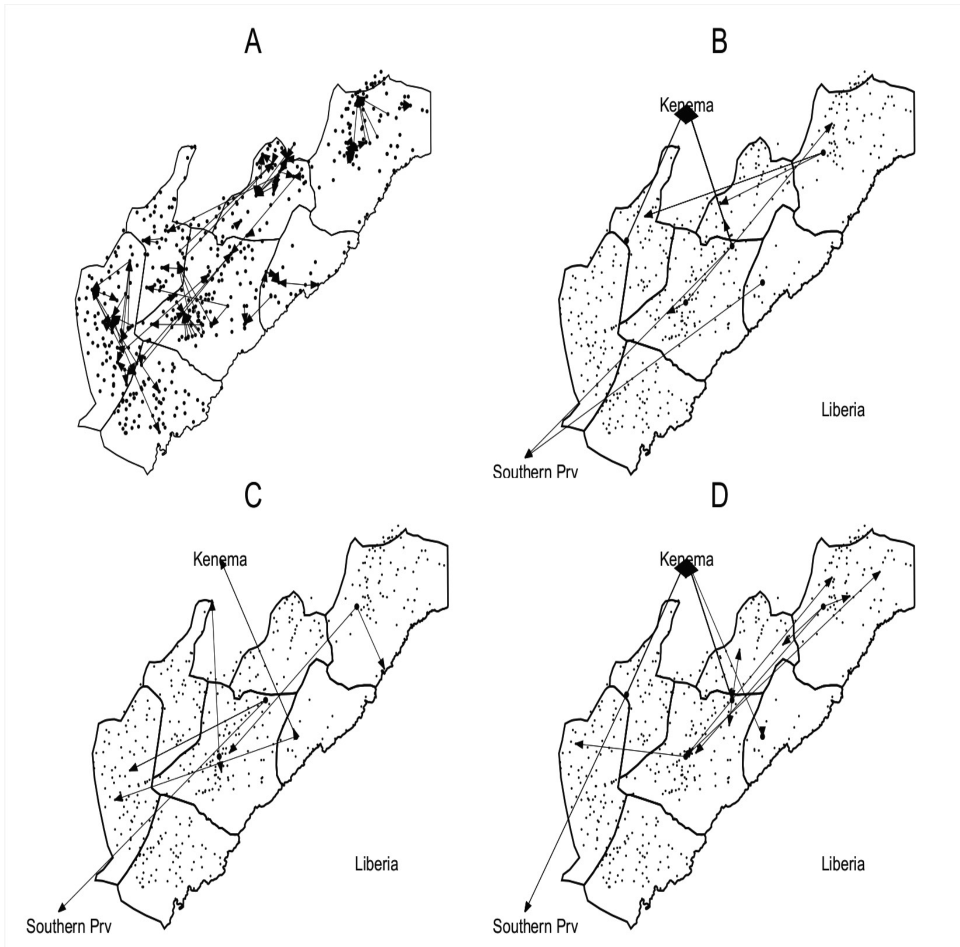

Figure 4a-d: Village dependencies, migration for marriage, work and education
Notes: Figure (a) plots village social, economic and political dependencies. Source: Community Survey (S4 Dataset) in 91 villages in Eastern Sierra Leone in Malema, Makpele, Nomo, Gaura, Tunkia, Koya and Barri Chiefdoms. Map plots the village dependencies as indicated in a community focus group meeting with arrows going to the location the village depends on socially, economically and politically. Figure (b)-(d) use Household Survey (S3 Dataset) under 2460 respondents in 187 villages. Figure plots the migration patterns (origin and destination) for six randomly selected villages for household members who left the household for marriage, work or education during 2000-2010. In total we recorded data on 4208 migration decisions. Of these, 20% are for marriage, 36% are for attending school and 17% to work elsewhere. Work migration is for trading, mining, labourer for cash crop production and urbanisation. Location of Kenema is approximate.

Our data are intended to convey a picture of some of this local complexity, relevant to understanding of rural Ebola transmission risks. Below, in Figure 4a, we picture some typical village dependencies in seven chiefdoms bordering the Gola forest. All seven chiefdoms look to Kenema as their regional administrative and market center. The map is based on asking focus groups of village elders in 91 villages what other villages they depended on, in terms of political, social and economic relations. Arrows point to the village depended upon.

There are some obvious patterns, such as those in Tunkia chiefdom, where there are numerous small villages dependent on one town Golahun, the chiefdom headquarters. This is an area where settlers moved up to the forest edge and established satellites in the past half-century. But rather more unexpected is the number of villages linked in quite long lateral ties of dependency. These in particular follow the grain of a major pre-colonial trading route along the western side of the Gola forest to the coast in Pujehun district. Some of the connections cross chiefdom boundaries, and reflect ties based on the politics of elite marriage alliance.

A second set of maps, Figure 4b-d, focuses on the movements of young people into and out of villages for marriage, schooling and work. Apart from marriage, education is the single biggest cause of inter-village or village-to-town movements in rural Sierra Leone, except for the special case of movements to the mining areas (which we do not address). Here we have plotted data for 6 randomly chosen villages from the 187 villages included in the 2010 survey (S3 Dataset), related the destinations of people who left the household.

Again, the same mixed pattern emerges. As expected, Kenema shows up as a destination for marriage, work and school, but once again there are a good number

of unanticipated lateral linkages. These lateral connections are on a quite large scale, crisscrossing the entire forest-edge region.

If marriages offer a clue to the pattern of movements that funerals will one day generate, then mourners are likely to come from across the region. Thus we should not be surprised to find that a funeral of the wife of a chief in a Kissi chiefdom on the Guinea border generated an Ebola outbreak in a Mende chiefdom (Daru), where the wife of the chief, and sister to the chief's wife in Kissi, also died from the disease. Daru was the ultimate source of the Fogbo outbreak.

In other cases, movements to and from school, or migrant workers returning from distant locations, may also have spread the disease. One such case is the outbreak in Sahn, Malen chiefdom, Pujehun District, triggered by a student from Kailahun District reportedly visiting his uncle during the school holiday period (Awoko 2014).

Markets

Market data show similar levels of complexity, and once again the risks of Ebola transmission can only be fully understood with some grasp of historical connectivity.

The index case for EVD in the Upper Guinean forest region is a small child who died of the disease in the village of Meliandou in early December 2013. The disease spread to Gueckedou, a city of 200,000, 8 km. distant from Meliandou, and then to neighboring cities of Macenta and Kissidougou, and along international roads crossing to Liberia (Lofa County) and Sierra Leone (Kailahun District).

The area is sometimes seen as remote and impoverished. This needs some qualification. Historically, the area around Gueckedou was at an important junction for intra-West African trade, carried between the coast and interior savannas along two major trade routes on the eastern and western sides of the Gola forest (Richards 1996). Even today, traders and smugglers carry kola nuts and gold from the margins of the Gola forest and enclaves within it (Bulte et al 2014). In the late 19th century the area immediately north of the forest was a veritable entrepot for international trade (Fairhead, et. al., 2003).

Thomas Alldridge, a British travelling commissioner, who visited the region in 1893, on the eve of colonial conquest, introduced his account of what he termed an "ordinary native market" in the area with the remark that "I think I shall be able to show that these up-country people are not at all in the wretched condition often pictured by the European imagination" (Alldridge, 1901).

Alldridge lists the diversity of products available for sale, bought and sold in the local currency, "Kissi pennies". Elements of this regional trade survived colonial conquest, and in 1932 the British in Sierra Leone allowed a large international market to open at Koindu, very close to the Guinea border. Koindu market was closed during the 1990s because of war, but has revived since 2008.

Koindu (only 30 km from Meliandou) had a large number of cases of EVD in May to June 2014 and a further surge of cases (perhaps crossing from Liberia) was reported later September. Koindu’s role as a major booster of the epidemics might have been better anticipated given its history of involvement intense cross border commerce.

Reaching help

International efforts are focused on establishing a more widespread network of secure, well-run isolation units. These units need to be attractive to Ebola sufferers who have hitherto shunned voluntary hospitalization. A problem of accessibility needs to be addressed. Victims in the interior villages will often need to overcome a major distance barrier in reaching such centers.

In a recent national random sample of 117 villages in 47 (out of 149) chiefdoms we ascertained how close are typical classes of village to their chiefdom headquarters. The sample compares well-connected villages where agri-business centers have been located with typical less well-connected villages without agri-business centers located within the same chiefdom section (off-site villages). The same question was also asked in the survey of 187 Gola forest edge (GFNP) villages. These are among some of the most inaccessible places in the country.

The data are tabulated in Figure 5 a-c, and show the time distance separating the village and chiefdom HQ in the three types of settlement. Even in the case of the best-connected group (agri-business center villages), 10 per cent of settlements were more than two hours to a full day from their chiefdom headquarters. For the Gola forest villages the percentage rises to about one quarter. These distances would be insurmountable by an Ebola victim seeking voluntary hospitalization. A wealthy family might pay for a hammock. Others would be unable to afford to get their patient even to a "local" triage facility. Perhaps only helicopters could solve the problem of timely evacuation from localities that are not reached by motorable roads.

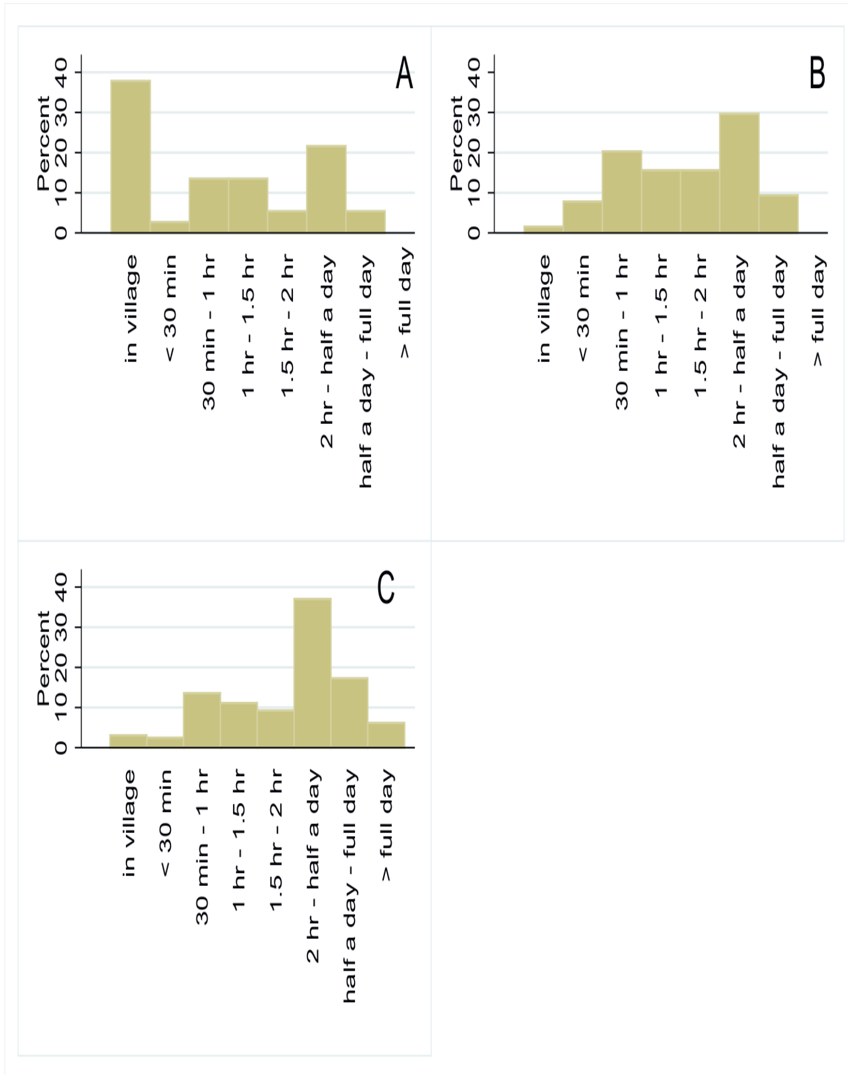

Figure 5a-c: Distance to Chiefdom headquarters town

Source: Figure plots the distance frequencies to the Chiefdom headquarter towns for villages with an Agri-Business Center (Panel A (S1 Dataset), villages without an Agri-Business center (Panel B, (S5 Dataset)) and villages around the GRNP (Panel C, Household Survey (S3 Dataset)).

Discussion and Conclusion

In the Fogbo case, discussed above, a carrier exposed to the disease in an urban location traveled towards an interior village, where family help and local remedies were sought. Distance frustrated attempts by the authorities to impose isolation and safe burial. This set up a new incubation focus for the disease, which spread locally without attracting further attention. Traders seeking rice and other food commodities then interacted with this local rural focus of the disease and drew the virus back towards market centers and the main roads, triggering further expansion of the epidemic.

What does this pendulum swing imply for attempts to control the disease? It is generally agreed that rapid identification, removal and isolation of cases for treatment is essential. This is made more complicated if the disease periodically dives into the backcountry. Drawing it out will require some ingenuity.

The scale of the epidemic makes the active following of cases into the interior practically impossible. The alternative is for the unwell to seek out testing and treatment voluntarily, and in sufficient numbers to bring the reproduction rate of the disease below 1.0; as of mid-September 2014 in Sierra Leone it hovered around 2.0 (WHO 2014).

For this to work, our analysis above suggests there are three key tasks. First, accurate information has to be conveyed in interior settlements about the true causes of the disease and infection pathways. A recent survey of attitudes in seven districts in Sierra Leone suggested that whereas many people now accept the reality of Ebola more than 80 percent still thought it was caused by eating bush meat (Focus 1000, 2014). The role of funerals, body washing, social networking and market exchange in spreading the disease also needs to be carefully explained.

Second, the option of seeking hospitalization has to be made truly attractive to the sick. This means that evidence the disease can be survived must be made more widely known. Survival rates in treatment centers also need to be boosted beyond a current estimated 35 percent (Lamontagne et al. 2014). These authors suggest ways in which this can be done.

Local triage centers will also need to offer effective rapid testing, guaranteed medical supplies for treating other diseases, and reimbursement of travel costs incurred by the unwell and their family carers. Moving a very sick person out of an isolated village across non-motorable tracks is a major deterrent to referrals. The difficulty, expense, and ordeal is so high that it often seems better to the family not to move the patient and let God decide.

Often a hammock (perhaps three or four times more expensive than a motor bike taxi) is the only realistic transport option. The costs to families, and the risks to helpers, should be fully assessed and built into the way any triage centers work, if they are to attract cases from interior villages.

Third, attention has to be focused on how family groups in the villages can protect themselves from the disease when all other options are foreclosed. Families will not readily abandon their relatives in extreme crisis, so they need information on how to minimize the risks associated with tending sick patients. This is now addressed in a poster (CDC 2014) offering guidance on "what to do while you wait" (for arrival of an Ebola ambulance). In some cases, this wait can be indefinite (Gettleman 2014). The poster describes the need for one member of the family only to be designated as a nurse, and for all other members to provide support and encouragement, but only from a distance. Early use of Oral Rehydration Salts (ORS) is recommended, coupled with advice on supplying this without the nurse directly handling the drinking cup. This now needs to be

followed by some attention to practical items often lacking in village conditions (e.g. sufficient supplies of soap, disinfectant, protective clothing, rubber gloves, buckets and ORS).

Some guidance is also now available in the form of a protocol from the World Health Organization (WHO 2014b) covering safe and respectful burial in village conditions. Villagers are very clear (see postscript below) that mandatory Ebola burials, carried out by one or other of the 90 or so national cadre of trained Ebola burial teams have caused considerable difficulty, due to haste and disrespectful treatment of bodies. At times this has amounted to little more than sanitary disposal. The protocol is a great improvement, since it now specifies a pastor or imam is present in all Ebola funerals, and the involvement, at a distance, of family witnesses. But as yet the protocol does not allow enough local input to accommodate the sociological concerns about debt and inheritance mentioned above. It is important for these issues to be faced by those in charge of burial teams, since it will open the door to better local cooperation.

Flexibility over burial ritual was already apparent even before the advent of Ebola. Where it was impracticable to bring a body home for burial the family pragmatically accepted that the funeral had to be organized in the place where death occurred. Further flexibility will be encouraged if villagers participate in focus sessions where they have an active hand in agreeing on the safest compromises. Corpse washing should be discouraged, but if it cannot be avoided then it should be done only with biohazard protection. Families should also be encouraged to meet to recognize but then postpone final marriage settlements until the epidemic abates. Debts can generally be rescheduled if they are publicly acknowledged as requiring eventual settlement.

In coming together to debate these issues villagers might also be encouraged to form village health clubs, to develop informal community "bye-laws" (club rules) to regulate against the most dangerous practices. In the case of Ebola, these rules might specify acceptable funeral practices, and when, why and how to quarantine patients if no other options present. In some Ebola epidemics villagers have resorted to building temporary shelters adjacent to settlements to care for suspected Ebola victims. Similar developments might be encouraged through village health clubs in Sierra Leone. Rules governing care provision while waiting for assistance need to be debated and agreed, example to limit the number of carers to one person per family.

The Ebola epidemic in Upper West Africa is the largest ever seen, and Sierra Leone is now the most seriously affected country. The international community perceives the epidemic as a threat to global security, and an abundance of help has now been provided to all three countries. Experts agree that with logistics in place containment should be a straightforward task. One thing that could blow this assessment off course is the persistence or revival of rural buffers of the disease. In Sierra Leone these are not found in forest-edge communities associated with zoonotic transmission but in the much more numerous farming villages that incubated the rebel war of the 1990s, due to inaccessibility and poor communications. An effective approach to control of Ebola Virus Disease requires detailed knowledge of these interior rural landscapes and how they function, including the key part played by rural-urban extended family networks. In turn, this knowledge should feed effective planning to extinguish the numerous further localized outbreaks that can be expected as a result of a now rampant urban epidemic feeding back upon far-flung rural locales as a result of dense rural-urban family and economic networking.

Postscript, December 20th 2014

Ebola virus disease has four phases: a few days from infection to expression of first symptoms, a so-called "dry phase" of a few days where the symptoms largely resemble those of other diseases such as malaria, and an equally short third "wet" phase often resulting in death, followed by a post-mortem phase where the corpse remains highly infectious until buried.

The phases largely determine the infection risk. During the second phase the patient becomes aware of illness, and begins a search for assistance, but without recognizing Ebola. The few days in question is sufficient for long distances to be traveled. These movements - illustrated in the case-study offered above - help explain the non-linear character of the epidemic, here termed a pendulum effect.

A shift in epidemic focus over the last three months of 2014 from eastern borderlands to the capital territory does not mean an end to this pendulum-like oscillation of infection between rural and urban communities. The family remains the main source of reliable support in a crisis, and an urban migrant will wish to head for the family home in the countryside at the first signs something is seriously wrong.

When symptoms show this to be a likely Ebola case the person has in effect often moved beyond the range of the rapidly-built and largely urban-based biosecure Ebola facilities built with the help of the international community, but is now in the "wet" phase and too ill and dangerous to be moved. The waiting time for assistance is long. Advice on "how to care for a patient until help arrives", and "safe burial", remain crucial aspects of Ebola control.

Given the continued likelihood of rural outbreaks, reignited by cases among urban migrants returning to the extended family home, it was decided to undertake a re-

study of the Fogbo case described above. How well did villagers now understand the disease risks, and what steps were they taking to prevent reinfection. These data will be the subject of a subsequent paper in preparation, but it seems important briefly to mention a few key findings as an update to the case presented above.

There have been major changes in perceptions of behavior related to the disease. Occult explanations have been dropped in favor of understandings framed in of the risks posed by body fluids. Whether as a result of messages from health teams or through local discovery, houses with Ebola cases have been quarantined, and "one-on-one" caring adopted. The food trade at Moyamba Junction has largely been suspended, and some market women have taken to making and selling charcoal instead. Villagers are now very aware of the risks posed by health-seeking visits by migrant members of extended families. Visitors are prevented from passing the night in the villages. Active transmission of Ebola Virus Disease now appears to have been ended.

Where there is still concern and dissension is over the activities of burial teams. Preparing the body for the afterlife (including the need for an imam and assistant to enter the grave to ensure the body is turned towards the rising sun) remains a strongly-felt need. Funeral rituals cannot be abolished, especially where they speak to the power and influence of elders or to the transfer of social identity and property rights from dead to living. No clear procedures have yet been established to put these requirements into temporary abeyance to address the Ebola infection risk. Burial is now safer, and more respectful, but it is not yet adequate to the needs of societal reproduction. Efforts at consultation with and engagement of local groups on this crucial issue must continue, or dangerous evasions will continue to be attempted.

3

CHAPTER 3

Trust, and distrust, of Ebola Treatment Centers: A case-study from Sierra Leone[3]

INTRODUCTION TO CHAPTER 3

When Ebola began to spread beyond eastern Sierra Leone in mid-2014 temporary "holding centres" were organised as preventive mentions. The holding centre at Moyamba town was typical – an abandoned school building with very poor facilities. Of 242 patients admitted in this centre no patient with confirmed Ebola survived and families saw these holding centres as "death camps" and fought very hard to prevent their loved ones being admitted.

By September the first specialist Ebola Treatment Facility (ETC) was being erected at Nyanyahun, ten miles north of Kenema. The Nyanyahun ETC had beds for about 100 patients and was organised according to a design which divided a green low-risk zone from a red high-risk zone. All confirmed Ebola cases were housed in the red zone; staff entered this zone only when fully clothed in full Personal Protection Equipment (PPE). There was a strict hierarchy of command from medical staff to security guards at the gate, based on training and experience. Procedures were very strict – a nurse who "reversed" from the green to the red zone to collect her phone was dismissed.

Chapter 3 shows that hierarchical procedures associated with ETC clashed with the way villagers thought about and treated disease. Mutual caring for the sick is one of the ways in which enclave solidarity is maintained within and between intermarried families. An ETC separated patients from their families, often by many hundreds of miles. ETCs were large, centralised facilities, built far from the epidemic "front line". In fact, by the time Nyanyahun ETC was opened the epidemic in Kenema was ending and most new cases were bused or ambulanced there from Freetown, Kono or northern Sierra Leone. Families hoped or expected to follow their sick ones to hospital because family support is thought to be

important for recovery, but ETCs had no facilities for visitors or to handle food prepared by families for their patients and there was no feed back into the communities were these patients came from. For example, notices about death and burial of patients were not always sent to family members. There was a deep clash of institutional values.

Chapter 3 shows that this clash was specifically between hierarchical and enclave ideas about caring for the sick. The Douglas theory of institutional ordering both predicts this kind of clash and argues that resolving it requires efforts to accommodate the competing principles of social ordering. This may require conscious compromise over values; a “clumsy solution” is required.

Chapter 3 shows that the institutional clash was high when ETC opened, but reduced somewhat as the epidemic progressed, due to attempts made to address some of the issues, especially through the appointment of social liaison officers who reached out to families and helped them to understand what the ETC was trying to do. But it was not enough. Ebola Treatment Centres were too large and remote, and remained objects of suspicion to many communities.

CHAPTER 3

Trust and Distrust of Ebola Treatment Centres: A Case-study from Sierra Leone[3]

Paul Richards[1¶*#a], Esther Mokuwa[2¶#b], Pleun Welmers[3#b¶], Harro Maat[3&], Ulrike Beisel[4&#c]

[1] Directorate of Research and Planning, Njala University, Makonde, Sierra Leone
[2] Development Economics group, Wageningen University, The Netherlands
[3] Knowledge, Technology and Innovation group, Wageningen University, The Netherlands
[4] Department of Anthropology, University of Bayreuth, Germany

[#a] Njala University, PMB Freetown, Sierra Leone
[#b] Wageningen University, Hollandseweg 1, Wageningen, The Netherlands
[#c] University of Bayreuth, Fakultät für Kulturwissenschaften, Bayreuth, Germany

[¶]These authors contributed equally to this work.
[&]These authors also contributed equally to this work.

* Corresponding Author
Email: paul.richards1945@gmail.com

Abstract

The paper considers local responses to the introduction of an Ebola Treatment Centre in eastern Sierra Leone during the West African epidemic of 2014-15. Our study used qualitative methods consisting of focus groups and interviews, to gather responses from patients, members of the families of survivors and deceased victims of the disease, social liaison workers from the centre, and members of the general public. The data indicate that scepticism and resistance were widespread at the outset, but that misconceptions were replaced, in the minds of those directly affected by the disease, by more positive later assessments. Social workers, and social contacts of families with workers in the centre, helped reshape these perceptions, but a major factor was direct experience of the disease. This is apparent in the positive endorsements by survivors and families who had members taken to the facility. Even relatives of deceased victims agreed that the case-handling centre was valuable. However, we also present evidence of continuing scepticism in the minds of members of the general public, who continue to doubt that Ebola was no more than a crisis manufactured for external benefit. Our conclusions stress the importance of better connectivity between communities and Ebola facilities to facilitate experiential learning. There is also a need to address the wider cognitive shock caused by a well-funded Ebola health initiative arriving in communities with a long history of inadequate health care. Restoring trust in medicine requires Ebola Virus Disease to be re-contextualized within a broader framework of concern for the health of all citizens.

[3] Published in *PLoS ONE* 2019

Author summary

African communities affected by Ebola Virus Disease sometimes resist international interventions intended to halt spread. In North Kivu (Democratic Republic of Congo) resistance has included armed attacks on Ebola case handling facilities. There is a need to understand why this negative reaction occurs. The paper considers local responses to the introduction of an Ebola Treatment Centre in Sierra Leone in the 2014-15 West African Ebola epidemic. The sudden arrival of a well-equipped Ebola response in places where health provision was previously poor to non-existent provokes rumours about hidden sinister intentions. Patients and families in Sierra Leone took time to learn through experience the real nature of the Ebola threat. The paper makes two points: responders have to understand and allow for the process of experiential learning through which local populations come to understand the disease. Second, responders have to demonstrate a concern for other diseases affecting local populations, and not focus on Ebola alone.

INTRODUCTION

The Ebola virus first became known to medical science in the 1970s after an outbreak of Ebola Virus Disease (EVD) in a mission hospital adjacent to the Ebola river in Zaire (now Democratic Republic of Congo (DRC)). Twenty or so episodes of EVD then followed, mainly in isolated areas of the central African forests. The exception was an urban episode in Gulu in northern Uganda in 2000. An EVD outbreak on the margins of the tropical forest belt in West Africa in the Republic of Guinea, beginning in December 2013, rapidly turned into an epidemic, affecting three countries in particular – Guinea, Liberia and Sierra Leone (1).

A more recent outbreak in the provinces of North Kivu and Ituri in the Democratic Republic of Congo (DRC) in 2018 has potential to become as serious as the West African episode of 2013-15. The response in DRC is complicated by a long-running violent conflict in the region and deep resentments against the state. Local populations are suspicious of Ebola responders and violent acts have happened. For instance, in February 2019 two case-handling centres run by the agency Medecins sans Frontiers (MSF) were attacked by armed militia [2]. Local communities are suspicious and at times uncooperative [3-4]. To them, Ebola is only one of many diseases they face. To some, the amount of attention paid to Ebola by government and international responders suggests a hidden agenda; rumours are rife that the disease is not real, and a political or money-making ruse [5]. This undermines the community cooperation needed for infection control and suggests that more needs to be done to situate Ebola in a broader agenda for health in marginalized, conflict-prone regions [4].

In this article we present work on community responses to EVD from the 2014 – 16 outbreak in Sierra Leone. Our research question was focused on how trust or distrust emerged in outbreak control and Ebola treatment, and which factors are building or undermining trust in medicine in Sierra Leone. Our data suggest that distrust between communities and Ebola responders is a problem common to both epidemics. Given the North Kivu outbreak, the lessons of this West African study are of potential wider relevance. In particular, our material highlights two key points. Firstly, we show that experiential learning and social feedback have been crucial factors transforming initial distrust into trust – both with regards to knowledge about Ebola as a disease itself, and to the acceptance of case-handling facilities (Ebola Treatment Centres, henceforth ETC). We show this by tracing the opinions and experiences of several stakeholders with one particular ETC in Sierra Leone, used here as a case study. Our paper provides evidence that quarantine and isolation cut off social contact as an (unanticipated) effect of medical concern and thereby distort important feedback mechanisms that would otherwise allow communities to learn about Ebola.

This is a challenging lesson for developing future EVD interventions, because as we show in this paper local communities are quick learners when directly confronted with Ebola (see also [1]). Secondly, the paper argues that biomedical diagnosis and treatment differ significantly from earlier patterns of health care, in particular in rural regions on the African continent. Many Ebola patients did not have previous experience with blood-taking, and the workings of biomedical diagnosis were unclear to them. If the diagnostic process and its epistemic presuppositions are not carefully explained, this opens up the response to what is usually understood as rumours and distrust. This is amplified by the fact that care in an ETC contrasts starkly with previous health care patterns, where relatives play an important role in caring for patients. It is thus crucial that patients and

relatives leave the ETC with the experience they were well cared for. Importantly, it is essential that health care systems cater for all diseases and not only for epidemic emergencies of highly-infectious diseases, as a long-term priority for national and international interventions [4, 6]. Trust in biomedicine is elusive if it is only striven for during an epidemic. Indeed, in times of crisis, it is too late to lay the foundations for a relationship of trust with biomedicine, or indeed to strengthen a health system that has been abandoned since the advent of structural adjustment policies.

In conclusion, preparedness must be integrated at the level of ordinary health systems, and well-functioning health systems are a necessary precursor to wide societal trust in biomedicine.[4] Only if the national and international community can show in practice that they are genuinely concerned with improving the long-term health situation of populations will trust in biomedicine be sufficient to gain community support for the stringent measures needed to tackle highly dangerous outbreaks of infection such as EVD.

Materials and Methods

The wider study on which this paper is based focused on the research question of how trust between health professionals and patients was built up or broke down in various organizational settings, in particular at the lower levels of the national health care delivery system in Sierra Leone, contrasting responses in urban and remote forest-edge rural locations. Some attention was also paid to Ebola-specific treatment facilities. Here we analyse a specific part of the data collected for the wider study, in particular a detailed interview -based case study of a case-handling

[4] We thank Frederic Le Marcis for stressing this important point in his review of this manuscript.

facility close to Kenema, the regional capital of eastern Sierra Leone. The approach in this case study was qualitative. A mixed tool-set of focus group (n=10, 50 participants, 439 statements) and in-depth key-informant interviews (n=6) was used (see supporting materials for transcripts). All participants in interviews provided informed consent, and all responses have been rendered anonymous, including from a follow-up focus group held in a badly-affected village supplying patients to the case-handling facility, here given the fictional name of "Taninihun", and for which baseline questionnaire data and focus group materials were previously collected in December 2014, at the height of the epidemic (anonymised transcripts of these earlier focus--group and individual interviews are included in the supporting materials as a baseline for further focus-group reflections in 2017 by members of this village community).

Focus groups were carried out in July 2017 according to a method tested in earlier work on Ebola in Sierra Leone (protocol supplied as part of the supporting material). This makes use of a card tracking system to allow conversational voices to be identified and placed in order of the flow of the conversation without compromising the anonymity of the speaker. The system also has the advantage that it allows patterns to be detected in focus-group interaction – for instance, if there are dominant voices in the conversation, if certain comments only emerge after crucial interventions (e.g. prompts by facilitators), if particular themes emerge early or late in the conversation, if one age-group or gender is dominant, and so forth.

Sampling

The specific investigation of trust in the context of an Ebola case-handling facility (ETC) was intended to be an exemplary case-study. We deployed a team of

locally-based research assistants thoroughly trained by one of the authors (EYM) for work on Ebola in 2014-15. Each came to the 2017 study with prior social-survey interview experience, including use our tailor-made focus-group interview protocol. One of our research assistants had been employed in the case-handling facility in 2014, and helped us "snowball" a cohort of former employees, patients and their families, from which, after informed consent, 50 persons agreed to take part in our study, of which 28 were former employees of the case-handling facility and 16 were patients or members of families and affected communities. In addition, six persons were purposively chosen from a local non-elite and ethnically mixed urban quarter on the criterion that they had lived through the epidemic in the vicinity of the case-handling facility but without having direct experience of the virus. Separate focus groups were organised for each of the occupational groups and for survivor and family members. A focus group was also organised for villagers in "Taninihun", an Ebola-affected settlement where data were collected in December 2014 as part of a research study intended to support the epidemic-response social mobilization exercise [7]. This earlier fieldwork implemented three focus groups (for male elders, female elders, and younger people); additionally, 25 randomly-sampled interviews with male household heads and adult women were completed in "Taninhun", and forms part of a gender-stratified national data set with sample size of over 700 [7].

Ethics statement

Written consent for data collection was obtained from the Sierra Leone Ethics and Scientific Review Committee (SLESRC), which granted ethical approval to this study on 9 September, 2016. All adult subjects and signed or thumb-printed a letter read out to them telling them what the interview was about and what they

should do if they felt uncomfortable. For the (few) interviewed teenage children the same procedure was followed, involving the parent or guardian on the child's behalf.

Background to the case study

The case-study ETC commenced activity in September 2014 and admitted its last case in March 2015. Since ETC were large facilities and there were only a handful in provincial Sierra Leone, there is no point in disguising the fact that this was the ETC located at Nganyahun, 10 miles north of Kenema, a case-handling facility established by the national Red Cross with support from the International Federation of Red Cross and Red Crescent Societies (IFRC). It was the first such centre to become operational in Sierra Leone. Nganyahun ETC drew on design principles developed by MSF [8]. In particular, use was made of a layout in which different activities were assigned to "red" and "green" zones, of higher and lesser infection risk. Basically, activity always moved from the "green" to the "red" zone, and never the other way. Entrants to the "red" zone were required to wear full PPE, and those exiting this zone had to go through an extremely thorough and time-consuming decontamination process. Any departure from this protocol was met with sanctions. Repeat offenders were dismissed, for having put the safety of other staff at risk.

Results

We focus here on the case study of the ETC in Nganyahun and retell the experiences of four key groups of people impacted by its presence: (i) a group constituted by people who lived through the Kenema outbreak but without being directly affected by it, (ii) ETC patients and relatives, (iii) ETC staff, including

out-reach workers, and (iv) residents in "Taninihun", a village in Kenema District badly affected by Ebola, where patients and families had experience of both the ETC and the make-shift arrangements that preceded it. In what follows we report on the question of trust and distrust respectively, and how both conditions were emergent during the Ebola crisis. We have further sought to trace what role moments of experiential learning played in establishing and disseminating trust through social feedback processes.

The view from the outside: views on the ETC from the general public

In order to explore how the work in the ETC was seen from the general public surrounding the ETC, we interviewed a small group of residents of a mixed residential quarter in the nearby town Kenema, who were purposively selected on the basis of having lived in Kenema during the Ebola crisis but without having been directly affected by infection on a personal or family level. We formed a gender-mixed group of six people meeting these criteria and invited them to attend a focus group session (n = 6). The session facilitator offered various prompts, including a starting question about what members of the group thought were the causes of the Ebola outbreak. The explanation that the disease was spread through person-to-person contact was widely shared in the group. Only one person stated that wild animals may have been a factor, while implying this was not personal conviction ("*we have been made to understand…*"). At the time of the epidemic hunting and bush meat consumption had been a widely touted "official" explanation for the outbreak. However, this explanation was met with "*epistemic dissonance*" by locals who have long consumed bush meat without diseases occurring [9].

Nevertheless, most comments about the ETC itself were positive. Discussants had heard survivors speak, in person or over the radio, about the good care they received. This replaced pessimism based on earlier messages that there was no cure for Ebola with a growing confidence that many people could pull through with ETC help. The ETC also rapidly isolated EVD cases, and this reduced fear of visiting Kenema hospital, widely shunned as a result of a nosocomial outbreak in June-July 2014.

ETC staff were seen as bringing specialist knowledge, with benefits to patients, when compared to alternatives. Several discussants purported to have noticed that patients discharged from the ETC had fewer long-term health problems than those discharged from the government hospital. Two discussants even advocated for the ETC to be rebuilt, to cope with future infectious disease threats. Others, however, found the ETC premises a painful reminder of those they had lost, and were glad when it was dismantled. Thus, from the perspective of 2017, the ETC was generally seen in a positive light. But some members of the group did not hide earlier doubts. One offered a glimpse of those earlier assessments: "*Most people were saying that [Ebola was] just a story for making money,* and another frankly confessed: *I was envious of their earnings*."

There was also anger directed at some ETC employees, particularly the burial teams: "*Even when they were highly paid, they still needed bribes before they could collect the dead bodies from the houses. Otherwise you were the last one they helped. I hated them so much*." And lack of cultural sensitivity in burial also still rankled: "*They were disrespecting the dead who were not buried properly, and I hated them for that reason*."

A final and perhaps surprising note is the degree of awareness among our focus group that Ebola in Sierra Leone was not defeated by ETCs and foreign experts alone, but by a more general shift in attitudes in favor of reducing risks of bodily contact, by (for example) observing quarantine rules and local bye-laws. In response to a prompt about changing attitudes one discussant stated that: "Y*es, [these] changed over time; the right treatment was now given to the patients and people were adhering by the by-laws."* Another added: "W*e started obeying by-laws since those were ways to prevent the virus [from spreading]* and as a result: *infections were reduced."* One young female discussant specifically noted that: "P*eople changed their behavior* and gave a personal example: *my father even kept me in quarantine; I was not allowed to go to the market."*

Survivors, families of survivors, and families of the deceased

A rather different picture emerges from the comments supplied by focus group participants who were survivors, or members of families of survivors and the deceased. Survivors and family members often had positive experiences of the ETC itself but suffered considerably from stigma and a lingering suspicion in their communities that the disease was fake.

Constituting a group of survivors to form a focus group posed a logistic challenge due to the way the ETC had received cases. Nganyahun ETC took a large proportion of its patients from outside the district, because by the time it was built the Kenema outbreak was ending. To follow up the group of survivors would have meant traveling to Freetown or Kono, the districts from which most patients came, and funds did not allow the team to travel, while so much of its other interview work was Kenema-based. Thus we had to locate a small group of

Kenema-based survivors with experience of time spent in the ETC, and two of these agreed to discuss their experiences in depth. They both reflected on their fears before being taken to the ETC, having imbibed information that there was no cure, and hearing rumours that the ETC was involved in sinister activities. To their surprise they found that things were otherwise; they were well cared for and their personal needs were met – e.g. with a phone and credit to contact their families. One of the discussants summed it by saying: "A*ll my perceptions were turned around, I was received well and well cared for immediately, what I heard is not what I saw*". The other discussant added that care was meticulous, and it challenged his expectations: "E*very hour people were checking on me; it proved to me that what people said about Ebola (that if you are taken to the ETC you will not survive*) *was all false".*

There were some criticisms. Neither was told the result of their blood tests until discharge, and ambulance drivers and crew were castigated for rough driving and excessive spraying of chlorine.

One discussant also raised the issue that contradictory messages circulating about Ebola undermined confidence in treatment: "*They [said] that there are no drugs for the disease, but when [I was] taken to the [ETC] I was given drugs. I feared to use those drugs [at that time]. That was a difficult situation."* Both welcomed the fact that they had been given a discharge package to help with domestic reintegration, but they needed longer-term help, both for medical complications and with their life situation more generally (they had lost their jobs and struggled to pay children's educational expenses).

Both survivors report community alienation. One said: "*We are seen by the society as false declarers of Ebola. We were not really expecting such, but [the]*

community still do not believe the existence of Ebola. Our relatives still [have] mixed feelings about us." The other added that: "*The community [do] not believe a word we tell them. They have no trust in us about the existence of the virus."* Additionally: "*They thought that it was a bargain between us and the expatriates to make money. Even our former [friends who] we were with now isolate and stigmatize us."*

The focus group on how families of survivors were affected comprised two women discussing husbands admitted to the ETC and a teenage girl referring to her father's time in the ETC. All three discussants thought the ETC was necessary and were grateful that staff had made such efforts to help their loved ones, despite the risk to their own lives.

All three spoke movingly about the pain of farewells and having to cope with fear that they would never see their family member again. By the time one of the patients was admitted (December 2014) the ETC had been operating for three months and phones were now distributed to patients so that families could remain in touch. Even a certain amount of patient visiting seems to have been possible. One wife learnt her husband was going to survive when he was visited by his brother, who apparently talked to the sick man from behind a barrier.

One of the wives would have liked to help nurse her husband. The other recognized that because of the infection risk it was wiser to leave the task of nursing to skilled professionals. She, herself, was in quarantine, so had no opportunity to leave her house.

All three talked about being shunned by neighbors and friends. In one case neighbors even locked the local well so that it could not be used by the affected

family. Experience of good care revised assessments of the ETC. Her view about the ETC changed: "*Because there is now confidence that you will get well, if you do not hide your sickness and go for early treatment*."

The four persons (two men, two women, three farmers and a trader, all middle aged or older) taking part in a focus group for those who had lost loved ones at the ETC provided nuanced assessments.

They all saw the establishment of the ETC as a reason for hope, and had expected their family member to survive, only to have these expectations dashed. Even so, they praised the dedication of the staff. One woman stated that: "*I admire them as I speak because they did everything they could do to salvage the situation*. Another added that: *I am always happy when I see them, even though my husband died, my daughter survived. I have mixed feelings."*

The pain of loss was made worse by uncomprehending friends and neighbors. One women said: "[I] *was driven [away] by my husband when my son was infected and was taken to the ETC. I had to find another house to live in. I was marginalized by society."* Another complained that*: "People saw me as a bad person in the town because two persons [in] my family died of Ebola - my wife and my son-in-law. I was stigmatized."* A third added: *"We were very seriously mistreated, people never talked to us, and had nothing to do with me and my family. People didn't even come close to us. I was stigmatized."*

Major complaints about the ETC centered on lack of provision for maintaining contact between patients and family. This began with the ambulance, which took no passengers: "*When my wife was taken away, I felt discouraged. [I] wanted to have a word or two with her, but they denied me the privilege to go. The only thing*

that I did was to wave at her in the ambulance. My [wife] said to me, please take care of my children." In some cases, this was due to quarantine*: "I was seriously disturbed when the ambulance took my husband and daughter to the ETC. I wept. I would have loved to [have] followed, but I was quarantined. They waved at me. I felt tears in my heart."*

Over-zealous ambulance teams apparently added to the emotional distress by excessive use of chlorine spray: "*When the ambulance arrived, they sprayed chlorine outside the house and inside the ambulance and took my husband away. Every step he took was disinfected. I cried nearly to death."*

A problem for families was that the ETCs had no capacity to allow family visits: "*There was no visitation allowed. I cried my eyes out when I did not see my daughter."* Another discussant added*: "I felt so bad because I wanted to pay a visit to my husband but was not allowed; I was eager to go to see him but to no avail."*

Next-of-kin did the next best thing and looked for relatives or contacts among the ETC staff. One said: "*I had a kinsman from the same village (Taiama) who worked at the ETC, [and he] gave me information about what was happening at the ETC. I gave him my phone number [and] he used to call me and reported the death of my daughter*." Another discussant "*had the phone number of one of the workers [and] he used to give me whatever information I needed."* But these back channels did not exist for everybody*: "I had no relation with the ETC workers and therefore no information from anybody at the centre."*

Family members felt especially upset that they could not contribute to the care of the sick person: "*I was really dissatisfied when my husband was taken away from*

me and [I] was not given the privilege or chance to take care of him myself." A mother declared herself: "*really disappointed and depressed* that: *there was no way I could take care of my daughter when she needed me most. Because I was not close [by] to launder or cook for her. I could not give her anything."* A third informant commented that: "*the workers in the ETC took care, but [they] will never do it well and in the same way as I would have done [it]."*

Reporting of death is a sensitive and important cultural matter in Sierra Leone, surrounded by assumptions and protocols regarding both the messenger and when and to whom the message is to be conveyed. The ETC seemed not to have any systematic procedures for handling this. Much information was passed through informal channels by workers at the ETC. "*A worker at the ETC (a cook) told me that my daughter was dead. When she saw my daughter at the ETC she recognized her, so when she died, she informed me."* In another instance: "*a worker from the ETC called one of the security personnel gating my quarantine to tell us my husband was dead."* One husband reported that: "*a member of the [Ebola] taskforce in the village told me that my wife was dead, and when I was asked further, he told me that this happened a week [previously]."*

The topic of funerals aroused the greatest disquiet. A selection of comments include the following: "*I felt bad because we never saw where they were buried. Who knows how they were buried? In a mass grave and denied our traditional requirements for a decent burial? [It is for that reason] that we bury our own deceased. We never set eyes on the corpse nor even visited the burial of our loved ones. We did not know there was such a ceremony. No, I did not see the corpse. I neither saw a picture of the corpse or of the grave. I did not know that there was a grave until [you told me] today."*

There is in fact a well-organised Ebola cemetery at Nganyahun, with a large central memorial and marked and labelled burial plots, adjacent to the former ETC, but it is behind a high locked gate, and when one of us [PR] visited in 2016 we climbed the fence because no one could find the key.

One of the focus group respondents credited the ETC with taking some care over burial: "*We were happy because at the ETC they take time to take care of the burial, the only [problem being] that we were not allowed to witness the burial.*" Another member knew about the graveyard since he criticized its positioning close to the wards*: "the location of the cemetery close to the ETC was very unrealistic. [It served as] an agent of fear in the minds of the patients. It sent bad signals to both patients and family members"*.

The MSF-managed ETC at Bandajuma (Bo) took a more considerate approach, and organized burial in a special area for Ebola victims attached to the town's main public cemetery on the Dambala road.

Ebola Treatment Centre community liaison

The arrival of the international community to help with response to EVD, a disease never before seen in Sierra Leone, required abundant local help. Those with a good educational background found work as translators, case finders, data clerks and so forth. Some of these recruits were then trained as community liaison workers for the ETC. This group linked the facility with affected families and their communities, and also helped implement quarantine. Three of these liaison

workers took part in a focus group to discuss their experiences. First, they talked about their initial fears and general ignorance of the disease.

Community liaison workers did not enter the ETC as part of their work, but at times came close to the fence, even at times apparently supplying food for patients to workers on the inside: "*We rendered service to the patients, like getting close to the perimeter fence and giving them food.*" Presumably this was home cooking from families passed to workers inside the ETC.

In regard to the general ignorance of the disease, the learning curve of the liaison team was steep, as indicated in the following comments: "*I was not trained at all before the ETC was established. But nobody knew much. By doing, we learnt [how to reduce] the death rate. One key thing I learnt is that when the outbreak occurred it was new and that we were not prepared, and that nobody [in the country] knew about the Ebola virus.*"

Part of the job was to help maintain connection between patients and their families cope and to explain the true nature of the disease: "[*Through our work] relatives were directly connected to the patients. We spread messages that helped reduce the spread of Ebola.*" But misconceptions had to be overcome: "L*ow infected communities did not want to receive us. They did not believe in the disease. The only thing they believed is that if [Ebola] exist[ed], we had brought it to the community.*" One discussant thought that direct experience had changed attitudes*: "[It] was totally different with the highly infected communities. They sympathized [with] us and [made] discharge[d] [patients] very welcome. Places like "Taninihun" [see below] received us well because of the deaths they [experienced] during the outbreak. They were anxious to get help*."

A second assessment was more guarded: "*Some communities welcomed us, but others were hostile. Sometimes people went on [the] rampage and threw stones at our vehicle. To my dismay up to now some people do not believe there was Ebola."* Another added that: "*in Kenema, people never appreciated us and had negative thoughts about us. They thought we were betraying them. They saw us as spies."* Supervision of quarantine caused particular difficulty: "*People felt we had been given money to keep them at home or deprive them [of] their freedom of movement. Some attacked us physically. They felt betrayed*." Some of this suspicion was clearly connected to the vexed issue of burial practice: "T*hrough the visits we made we came to realize that people had negative thoughts about us, [a] reason being that they thought we buried more than one dead body in a (mass) grave."*

Misconception about the role of the ETC was also an acute problem initially*: "[They thought] that [medical] people were giving infection to patients [so that they will] die and never come back again*." Perception of the ambulance ride, with its over-use of chlorine, as a kind of one-way ticket to a death camp from which no one ever returned changed only with the discharge of survivors from about mid-October 2014: "*[Once survivors] were discharged, and that was communicated through radio, there was more trust.* In the end *they had more trust [in the ETC] than in other health facilities*."

"Taninihun" 2014 and 2017

The research team was directed by some of the ETC workers to "Taninihun" as a place where villagers had resisted sending patients to the ETC. This was denied by villagers, who pointed out that their first cases dated back to July 2014, two

months before the ETC was opened. A visit allowed us, however, to compare 2017 responses with the data collected in December 2014.

A focus group of six (three men and three women, five of whom described themselves as farmers) was formed, and participants unfolded a straightforward story. Yes, they had initially tried to care for Ebola victims at home: "*There was no doubt about caring at home, because of symptoms of Ebola have existed before*." Furthermore: "*We did not believe the Ebola crisis was true until the cases worsened*." Reluctance to report cases to the government hospital was due to a fear: *"[that they would] remove their blood for sale [and that] having your blood removed for sale caused spread."* Experience changed minds: "*I only believed that Ebola existed after my husband was infected."*

There were in all 28 cases in "Taninihun". When the community realized that Ebola was true, the chief together with all community members made by-laws, the main one being a fine for hiding a sick relative or [allowing] a stranger to pass the night: "*these approaches we adopted for the protection of our village against Ebola*." Quarantine and bye-laws ended the outbreak in the village, based on an understanding that spread was based on human-to-human contact: "S*ince the Ebola disease was not an airborne disease, but caused by body contact, [this] is one of the important factors that [made us] chose this approach*."

With initial experience of Ebola care based on the Government Hospital [GH] the group was keen to compare this with what they knew about procedures at the ETC, a first indication they may have had closer contact with the latter than they were willing to admit: "*The method of handling the dead at the ETC was better than the way the dead were handled at the GH,* and *no visitation was allowed at*

the GH, but visitation was allowed at the ETC and you could even send gifts for your loved ones at the ETC, [something] which was not permitted at the GH." Their regret now was that: "*the ETC was not built early enough to save most of our people who died*."

Reference back to the 2014 data set adds some important nuances, suggesting that the 2017 account has been modified to fit with a more general later understanding of the epidemic. According to the earlier data file there were 29 deaths and 13 survivors (so 42 cases of EVD in all). The first two persons to die were reportedly buried in the village, but the rest were interred in the graveyard attached to the Nganyahun ETC. The 2017 focus group implies that cases from "Taninihun" all went to the Kenema government hospital, but the 2014 source makes it clear this applied only to the two earliest cases, and that many (if not all) later cases from the village were handled by the ETC.

Thus, the outbreak in "Taninihun" almost certainly outlasted the cut-off date of August 2014 mentioned during the 2017 focus group session. The suggestion made by former employees of the ETC that villagers had experienced difficulty in accepting the facility evidently has some factual basis, as implicit in a statement made one villager in 2017, that liaison personnel from the ETC: "*came [to "Taninihum"] to persuade us more than six times."*

Discussion and conclusion

This paper has presented evidence that the first ETC in Sierra Leone, at Nganyahun, outside Kenema, was met with considerable initial suspicion and hostility. This distrust was connected to a more general climate of skepticism about the existence of Ebola as a disease. Much local reasoning supporting these

negative attitudes is shared across widely separated epidemic locations in Africa. This places news from early 2019 that case-handling facilities in North Kivu have come under attack by armed militia in a significantly altered context. Doubtless, a complex insurgency complicates response efforts, but the underlying reasons for skepticism and hostility lie in a negative dynamic linking Ebola responders and afflicted communities, or in other words in breaking "social accommodations" by crossing red lines [10].

Three major reasons can be identified for this lack of trust. The first reason is that Ebola (in both Sierra Leone and North Kivu) is a new disease, but it mimics the symptoms of many more familiar diseases, such as malaria and Lassa Fever. EVD reveals its distinctiveness only in its later stages. Isolated rural communities rightly see virtue in high-quality domestic care for other diseases such as malaria and feel deprived when they cannot offer the same for EVD. As the results of our case study shows, in Sierra Leone it took time for evidence to become clear to care givers. This temporal dynamic can be seen with regards to the fact that bodily contact spreads EVD, that quarantine and isolation are unavoidable, and that ETCs provide good quality care and can improve outcomes for patients.

Evidence was thus needed to support a change of attitudes in Sierra Leone. This emerged in three stages. The first was when families began to recognize that those most involved in care for a patient were those most at risk of next being infected. A steady flow of discharged survivors then changed perceptions that the ETC was a place where people went only to die. Families finally realized that patients had better survival chances in the ETC than those attending a regular hospital or kept at home. As other studies have also shown in times of emergency social learning has been fast, and many local practices were successfully adapted to meet newly

acknowledged realities [1, 8, 11]. However, as we have shown here, practices of quarantine and isolation cut off social contact. The largely unanticipated effect of quarantine, however, was that important feedback mechanisms that would allow communities to learn about Ebola were disrupted, and so delayed learning based on the experience of trusted friends and family members. It furthermore created inequalities between those who knew ETC staff members and those who did not. It is in this situation that distrust and rumors found fertile ground to develop and spread. These findings underpin the importance of participatory mechanisms in learning [12, 13] that aims to build social structural support and collective efficacy when a community is confronted with health challenges [14].

The second reason for distrust is that the diagnosis of the disease is not readily understandable from prior local experience of health systems. The diagnosis of Ebola begins with a blood test. Phlebotomy is a well-known procedure to hospital patients in many parts of the world, but not in rural Africa, where reliable laboratories are few and far between. The most that many patients ever experience is a pin-prick blood test for malaria.

One puzzled village chief put the problem in these terms: "*I have heard of giving a very sick patient a blood transfusion, but I have never heard of a very sick person being forced to give blood*" [15]. He was describing the actions of an Ebola investigation team in collecting a blood sample from a dying woman. The team did not treat the woman, nor did they report the result of a blood test back to the chief. Only later was it apparent that the result must have been positive for Ebola when soldiers arrived in the village to quarantine it.

Such failures of communication about the basics of diagnosis appear to have been quite general in Sierra Leone. Survivors from the Kenema ETC told us that they were only told their diagnostic result (presumably Ebola negative) on being discharged. In this context, rumors that Ebola case handling centers were places for "mining" blood make some kind of sense, however wide of the mark. While these rumors are often dismissed as suspicions and "irrational" beliefs, it is important to recognize that many of such beliefs have a basis in colonial violence [16], as well as in ongoing unethical practices of blood and EVD sample extraction and theft in the context of the Ebola epidemic [17].

The third reason for lack of trust is closely related to the second reason in that the Ebola response hugely distorts the normal pattern of health care in poverty-stricken regions of Africa. This poses an explanatory challenge to local observers. Noting that everything was focused on Ebola response one Sierra Leonean farmer asked us: *what happened to all the other diseases, have they gone away?* The question expresses disquiet that poverty-stricken Africa is left to cope with the other killer diseases largely unaided, while the world spares no expense to tackle Ebola.

This disparity raises doubts. A Sierra Leonean villager's saying is that if you see farmers running through a ripening field of rice you know they are running after, or running away, from something. So, what is it that the well-funded international Ebola response is running after, or running away from? Local answers vary, but all are disquieting. Perhaps foreigners are afraid this disease will affect them? Maybe there is money in body parts or blood? Or could the virus itself have some hidden utility (facts about Cold War germ warfare, and molecular patents, are not unknown in African villages).

It would be wrong to dismiss these stories as evidence of populist ignorance spread around by too easy access to cell phones and social media. It would be better to open up a conversation with patients, families and communities about "all the other diseases". Triaging and testing patients for Ebola offers an opportunity to treat other conditions that come to light [7]. As Nguyen [4: 1298] observes: "*having patients emerge from isolation in improved health is powerful evidence that we aim to make everyone better, not just to stop Ebola's spread*." In short, restoring trust in medicine requires Ebola Virus Disease to be re-contextualized within a broader framework of concern for the health of all citizens. In this sense we argue it is crucial that national and international community needs to evidence in practice that they are not only concerned with isolating a highly contagious disease outbreak, but are genuinely concerned with improving the long-term health situation of populations. It is only then that trust in biomedicine and its interventions can emerge sustainably.

4

CHAPTER 4

Rural Populations Exposed to Ebola Virus Disease Respond Positively to Localised Case Handling: Evidence from Sierra Leone[5]

INTRODUCTION TO CHAPTER 4

Chapter 3 showed that Ebola Treatment Centres (ETC) were strongly hierarchical, and that this hierarchical ordering caused problems for many families with Ebola patients, because hierarchical principles of Ebola care clashed with family values towards the sick. Chapter 3 also noted that as time went by ETC became better at recognising and accommodating some of these local concerns.

However, there were some features of ETC that could not easily be changed. ETC were large, and too far distant from many patients. They were also shut off from families by fences and security and families saw themselves as not part of the game. When the only option for Ebola patients was confinement within a distant ETC families were reluctant to report sickness. Thus, this led to delays in diagnosis and spread of the virus.

From November 2014 a new approach was taken to Ebola treatment, on the basis of evidence supplied by anthropologists and other social scientists (see chapter 2). The new approach was to build a set of 55 small "field hospitals" known as Community Care Centres (CCC). The CCC were rapidly constructed in villages, and staffed by local recruits, they served as triage centres and sick people were rapidly tested for Ebola and other diseases. Majority of these cases were non-Ebola. These were treated, and patients were discharged but Ebola cases were isolated and transferred to ETC (or in some cases, nursed in the CCC). Families had more confidence in CCC than ETC – the CCC was local, open-sided (Figure 4.1) and the staff lived in the village and were well-known to families.

Patients were referred to CCC more quickly than to ETC. This meant that Ebola cases were more likely to be identified during the less infectious "dry" phase of

the disease. Data from Pronynk et al. (2016) suggests that this contributed significantly to the downturn in the epidemic.

Chapter 4 adds on this previous work by providing evidence that the CCCs were effective because they were better in line with village institutional values. These values, it is argued, reflected the enclave social ordering of village social life.

CHAPTER 4

Rural Populations Exposed to Ebola Virus Disease Respond Positively to Localised Case Handling: Evidence from Sierra Leone[5]

Esther Yei Mokuwa[1] Harro Maat[2*]

[1] Development Economics group, Wageningen University, The Netherlands

[2] Knowledge, Technology and Innovation group, Wageningen University, The Netherlands

[*]Corresponding author, E-mail: Harro.Maat@wur.nl

Abstract

At the height of the Ebola epidemic in Sierra Leone in November 2014, a new decentralized approach to ending infection chains was adopted. This approach was based on building local, small-scale Community Care Centres (CCC) intended to serve as triage units for safe handling of patients waiting for test results, with subsequent transfer to Ebola Treatment Centers (ETC) for those who tested positive for Ebola. This paper deals with local response to the CCC, and explains, through qualitative analysis of focus group data sets, why this development was seen in a positive light. The responses of 562 focus group participants in seven villages with CCC and seven neighbouring referral villages without CCC are assessed. These data confirm that CCC are compatible with community values concerning access to, and family care for, the sick. Mixed reactions are reported in the case of "safe burial", a process that directly challenged ritual activity seen as vital to maintaining good relations between socially-enclaved rural families. Land acquisitions to build CCC prompted divided responses. This reflects problems about land ownership unresolved since colonial times between communities and government. The study provides insights into how gaps in understanding between international Ebola responders and local communities can be bridged.

[5] Published in *PLoS Neglected Tropical Diseases* 2020

Author Summary

Control of Ebola Virus Disease requires facilities where patients can be isolated and treated safely, without risk to medical personnel or family members. In the 2014-15 Ebola epidemic in Sierra Leone emphasis was at first placed on large field hospitals known as Ebola Treatment Centers (ETC). These were often located far from areas where new cases were being discovered. Patients were distrustful of their purpose and slow to report, and the disease continued to spread. Six months into the epidemic a new approach was tried, based on much smaller and more rapidly constructed centres (Community Care Centres (CCC) located where new cases were occurring. This paper examines community reactions to the CCC. There was a much greater sense of community ownership of these small, localised centres, and reporting times improved. Families were able easily to visit and observe activities, even though restricted from crossing red lines. The staff were often local and provided trustworthy information on the progress of patients. Families were able to prepare home food for patients, and this was thought to improve their morale and chances of survival. CCC were also appreciated for treating other disease, and not only Ebola. Referral of patients to ETC was easier to accept when the outcome of an Ebola blood test was known. There were some differences of opinion over "safe burial" procedures and acquisition of sites for the CCC, but on balance CCC were well accepted by communities, and were seen locally as a positive development in Ebola control.

INTRODUCTION

In the epidemic of 2014-15 Sierra Leone had a total of 8630 laboratory confirmed cases of Ebola Virus Disease (EVD) [1]. The international community constructed Ebola Treatment Centers (ETC) as a key part of the epidemic response. These were facilities with very strict biosafety control, capable of handling 100 or more cases at a time. The International Federation of Red Cross and Red Crescent Societies (IFRC) opened such a facility at Nganyahun, about ten miles north of Kenema, in September 2014, followed by other units in Bo, Freetown and Makeni (all urban locations).

ETC were initially viewed by communities as distant, hostile places where patients went to die. Families feared patients would be forcibly carried to such a facility. Lack of sufficient bed capacity as the epidemic peaked, coupled with community unease, led to a modified approach – the building of a series of 55 small-scale Community Care Centres (CCC), beginning in November 2014. They were established in high-transmission areas, far from the capital and ETCs, with poor transport access. _Existing rural health facilities (public health units, PHU) were felt to be insufficiently 'protective' in terms of infection control to house Ebola patients. Additionally, many villages were afraid to use health centers due to fear of contracting Ebola. Some CCCs were located on PHU grounds – and were intended to allow 'routine' cases (non-Ebola suspects) more safely to use PHU facilities. Average build time was about two weeks, and CCC were staffed with local medical and non-medical staff and with some international volunteers.

Although the best strategy might be to isolate and test all suspect cases in ETC as quickly as possible (within the first three days of onset of high fever symptoms) this was undermined, in Sierra Leone, by patient resistance and lack of capacity.

Fear of ETC led to hiding of patients [1]. Shortage of beds also hampered Ebola response. By October 2014 there were only 287 beds in four ETC, all located in urban centres [2]. Locations (notably Bo and Kenema) were far from the places where new cases were occurring (in Freetown, Kono and the north). Care *in situ* was considered but rejected. Giving families Personal Protective Equipment (PPE) to minimize transmission while nursing patients at home would be problematic. Safe use of PPE was difficult even for professionals, and the country lacked enough trainers to instruct families in relevant nursing skills [3].

At the request of the government and with endorsement from WHO, leaders of the response to EVD in Sierra Leone decided to support another approach – passive case finding with community isolation. Those with suspected EVD would be encouraged to gather in units where they would receive basic care, and avoid infecting their families [3]. It was reasoned that many small units would be better than a few large ones, since they could be placed closer to emergent hotspots of a disease that moved in complex, non-linear jumps [4]. The original plan was to build up to 200 CCCs though in the end only 55 units were needed, in 5 districts in Sierra Leone, due to downturn in numbers of cases from January 2015. These smaller units could be placed closer to communities with new infections than the ETC they supplemented.

Incentives to self-reporting – patient feeding, and provision of good medical care for those triaged as Ebola-negative – were adopted on the basis of advice provided by social scientists [3, 5]. The fundamental aims and objective of the CCC was to isolate patients in places where there were no ETC. A news report in the British Medical Journal from the 12th November 2014 [6] summarises the controversy the CCC plan provoked. A representative of *Medecins sans Frontieres* (MSF)

went before the UK parliamentary international development committee to argue "the way the CCC are operating, the way they are putting responsibilities on the community, and the way they are designed, is not something MSF is behind at this point". An MSF official with experience in Sierra Leone added that "existing holding centres are close to the patients already". This view was contradicted by an epidemiologist who stated: "we need to have facilities closer to the patients (…) transporting patients for hours in the back of uncomfortable ambulances is (…) not conducive to patients coming forward to getting early treatment" [6]. After weighing the arguments the authorities in Sierra Leone and UK gave a green light to proceed.

CCC were intended to serve as accessible triage units in areas where numbers of cases were rising. They provided for safe handling of patients waiting for test results, with subsequent transfer to ETC for those with a positive diagnosis, and treatment for those found to have other conditions. This paper documents community responses to CCC, and explains why this development was seen, locally, in a positive light. These new Ebola response centres were viewed with scepticism by some international responders, who feared they would spread infection, but were seen in a more positive light by local communities. It is shown that a major factor was that CCC accommodated local cultural expectations regarding the role of the family in care for the sick. Loved ones, both living and dead, were treated with respect, and other diseases were also treated. Built to a partially open design, CCC allowed families some possibility to monitor a patient's progress [5].

The CCC approach belongs to a broader effort to tackle public health challenges through community mobilization (see for example [7], [8] and [9]) The present paper aims to document and understand community perceptions – positive and negative - regarding the CCC approach, based on qualitative analysis of opinions

expressed in a series of community-level focus groups. The aims and objectives of the focus group study were three-fold:

i. To assess community response to CCC, given that it was an untried approach, and there was known hostility at community level to larger more centralized ETC.
ii. To assess whether community responses varied by gender, age or location (with or without a CCC)
iii. To examine responses in relation to a set of key concerns and constraints, four of which (access to the facility, visiting and feeding, burial and land acquisition) are discussed in the paper. Other responses will be discussed elsewhere.

It should be stressed that our aim was specifically to access community-level responses, rather than individual views of e.g. patients or survivors. This is because in rural Sierra Leone, where villages are largely self-managed entities, the community consensus is an important element in determining whether policy interventions succeed. An open focus group approach is the appropriate means to gather information at the community level.

Materials and methods

The basic design of a CCC is described in [10]. The CCC was typically an 8-10 bed facility in tents (tarpaulin) or a repurposed local building (such as a school), staffed by "volunteers", mostly professionals with medical training, but lacking a Ministry of Health payroll number, and various manual workers, such as guards, cleaners and cooks. Some of the volunteers and most of the manual workers were hired from within the local community, a factor important in gaining trust of patients and their families. All the CCC studied had a water supply, latrines, and

security. The layout was divided into “red” and “green” zones [10]. Entry to the “red” zone was barred to all except staff correctly attired in PPE. Some CCC had light at night, supplied by generators. Carers could not attend to suspect EVD patients during the night unless a CCC had electricity [10]. The ICAP study reports that “no sites (visited by the team) were aware of any HCWs (Health Care Workers) who had contracted EVD from their work at the site” [10]. Nursing staff triaged sick persons as soon as they reported. Those without signs of Ebola were treated for malaria, or other diseases and sent home, under observation. Blood samples were taken from those admitted. The aim was to have a laboratory-confirmed result within two days [2, 10] . Confirmed cases of Ebola were transferred by ambulance to an ETC. Some died before diagnosis could be confirmed and were buried by a CCC “safe burial” team.

Data for the present study were collected as part of a formative assessment of the impact of CCC conducted in February 2015 in 14 villages (grouped in seven pairs, one village with a CCC and a second village referring patients to the CCC in the first village) in seven chiefdoms in northern and eastern Sierra Leone. Each referral village belonged to the same chiefdom section as its matching CCC village. A section is the lowest administrative unit in provincial Sierra Leone, typically grouping a handful of villages within a 4-5 km radius.

Choice of the seven chiefdoms was purposive, after consultation with local authorities and responders. Originally, the plan was to choose two chiefdoms in each of four districts (Kambia, Kono, Port Loko and Tonkolili) where Ebola infection chains were still active, but logistical constraints confined the research team to one chiefdom in Kambia District. We also had to bear in mind practical considerations, of reasonable accessibility and a suitable camping site for the team (lodging with villagers – our usual practice - was not allowed under Ebola regulations so the team took tents and did all its own food preparation and

housekeeping). CCCs varied somewhat in design and facilities. We did not try to reflect this in our sample design. This is because our focus was on communities, and communities did not experience variations in design. In each case they were comparing their own CCC with what pertained previously – treatment in a village health facility or a distant ETC. It was more important to us to get a good spread of communities, bearing in mind the practical constraints mentioned about doing fieldwork in an active epidemic.

Focus group discussions, lasting typically between one and two hours, were held in all 14 villages. Four focus group meetings (for elders, men, women and youths) per village were held simultaneously to ensure independent responses. First there was an introductory meeting with the village chief and elders. It was explained that all villagers were invited, if they chose to come, but that there would be separate parallel sessions for youth, older women, older men, and elders. It should be added that "youth" has a specific meaning in rural Sierra Leone, referring to a person not yet thought to have seniority in village affairs. The age range is rather vague – generally from 20-35 (i.e. young adult) but it is not unusual to see older people of low social status sort with the youth. We did not include children, thus obviating the issue of obtaining parental consent. Locations for the different groups were announced, and people were told they could choose the group they thought most appropriate to them. Having chosen their groups participants then gave informed consent.

All the various groups were adequately attended. We recorded no names but took information on age groups, gender (for the mixed focus groups for "youth" and "elders") and occupations. These data give some sense of the representativeness of each meeting. There were 56 meetings in all. A total of 1051 people participated and 3399 statements were recorded.

A single question was used to start discussion: what (good or bad) changes have there been in your community in the last year? In all groups the topic of Ebola was quickly reached. Facilitators were supplied with a list of topic prompts to guide discussion further. In some cases, topic prompts were used sparingly because there was a natural flow to the discussion. Speakers were guaranteed anonymity as part of an informed consent procedure.

A card system was used to keep account of the type of speaker, when they joined the conversation, and how many times they spoke, without having to record names. Two sequences of numbered cards known as "run order" (labelling respondents as A, B, C, etc.) and "speaking order" cards (numbering the times each respondent spoke – A1 A2, A3, etc.) were distributed and cashed in each time a participant raised a hand to speak. Run order and speaking order details were attached to statements as facilitators wrote them down.

The card tracking system allows the analyst to discover patterns of responses – e.g. whether certain opinions were favoured in some but not all of the four groups, whether certain people dominated the conversation, or whether the expression of a particular opinion by a person of higher status or greater seniority was confirmed by echoing statements from others who spoke later in a sequence. There is insufficient space in the present paper to offer the fine-grained analysis made possible by this tracking system, but the data are supplied on line, and we plan further analysis. For present descriptive purposes, a few summary numbers are supplied below to give an indication of the importance of particular topics to different strata within the sample.

Additionally, each group made its own house rules (e.g. to speak in a moderate voice) and to encourage as many persons as possible to contribute to the discussions.

Each focus group was run by two facilitators. Facilitator One led the discussion, asking a start-up question about diseases affecting the community. The facilitator confirmed that groups could talk about Ebola response once discussants had first raised it, and specifically about the CCC, as they wished. The prompt list was used to ensure a degree of consistency across groups. Facilitator Two managed, monitored and took notes of body language to assess reactions (in the first place to guard against distress), ran the card tracking system and wrote down and translated the discussion.

The 3399 recorded statements were grouped into twelve broad themes (see comment on aims and objectives above). Statements were then classed as descriptive (type-1) or evaluative (type-2). A statement would be classed as descriptive if it simply stated a fact – for example “the CCC had a generator”. It would be considered evaluative if an opinion was expressed – for example, that “CCC staff showed sympathy for the patient”. This resulted in 1367 (40%) type-1 and 2032 (60%) type-2 statements. Evaluative statements were the focus of our analysis.

Due to length constraints results for only four of the twelve themes are presented in this paper, covering about a third of the total data (Table 1). These four topics have been chosen to reflect the top priorities of the focus group participants, in terms of evaluative statements. The four themes are i) access to Ebola treatment facilities, ii) visiting and feeding patients, iii) burial, funeral ceremonies, and reporting death of patients, and iv) acquiring land to set up a CCC.

Topic	**Speakers**	**Type-2 Statements**
Distance	89	96
Visits	195	227
Burial	147	150
Land	131	144
Total	**562**	**617**

Table 1: Overview of the data subset

Type 2 statements can be viewed from the perspective of framing assumptions derived from Mary Douglas' theory of social ordering [11, 12, 13, 14]. Douglas recognizes four forms of social ordering – isolate, hierarchical, enclave and individualistic ordering – derived from two universal dimensions of social life (social integration and social regulation). Enclave and hierarchical ordering are of particular relevance to Ebola response in Sierra Leone. Villages in Sierra Leone operate as political enclaves [15]. They are largely self-governing. For example, a survey of village dispute resolution [16] showed that only 4 per cent of disputes were settled in (government-supervised) local courts - 96 per cent of cases involved reference to family heads or other trusted elders.

The decision-making process follows the patterns of village social structure. By contrast, a large part of the Ebola response involved hierarchical ordering. An example would be the front-line medical staff such as nurses and Community Health Officers under the direct command of District Medical Officers and senior officials of the Ministry of Health and Sanitation. Our focus group data are the "enclave" portion of a fuller data set to be analysed elsewhere. Here, results are presented descriptively.

Ethics statement

The data were gathered as part of an independent review of CCCs undertaken by a team recruited by the Institute of Development Studies at University of Sussex at the height of the Ebola crisis in in Sierra Leone in late December 2014. The urgent objective was to assess whether the new policy of building CCCs had any major flaws when viewed from the perspective of communities. The work was considered to be "impact assessment" and not primary research. The research protocol for community focus group discussions had been previously developed by team members and approved by ethical review boards in Njala and Wageningen universities.

The team was also required to apply institutional ethical guidelines. These ensured that all participation by villagers was voluntary, that data collection was undertaken under a protocol guaranteeing participant confidentiality, and that community leaders gave consent for the holding of consultative focus groups. All human subjects were adult. Informed consent was oral because only a minority of participants could read and write. The process involved the reading out of a statement of informed consent after which participants took time to reach collective agreement. This was reported to the Paramount Chief, who served as custodian of the community interest. No patient samples or experimental procedures were involved.

Results

Access to Ebola treatment facilities

Of the evaluative comments grouped under this theme, it was found that 74 statements (77%) directly referred to expectations concerning distance and family/inter-family involvement in care for the sick, 47 from males, and 27 from females. The distance of ETC was mentioned 35 times. Statements expressed specific obstacles such as the cost of transport, the hazard of a long journey for a seriously sick patient, and the difficulties families faced in maintaining contact with the patient in a distant location.

Many of these comments came from the four sample villages in Kono and Tonkolili districts. Ebola cases in Kono were at first directed to the ETC in Kenema, a distance of about 100 km., but all of it over very poor roads. Patients from the two Tonkolili villages had to travel to the ETC in Bo, more than 150 km., and later to Makeni, a distance of about 80 km. The problem with both journeys was the first part on rutted tracks.

The advantages of a local Ebola treatment facility (CCC) were mentioned 39 times. Reasons included the ability to maintain contact with the patient, and opportunities to fulfil expected duties of care. Local values are specifically evident in the following comment on the community's role in the decision of a sick person to report for diagnosis. As one respondent put it: "*We the community members monitor each other's health issues and can easily advise anyone sick to go to the CCC*".

Exclusion from the group is one of the most severe social sanctions that the enclaved community possesses [15]. It was important that patients did not feel

abandoned by their families, even if visitors could only gather at the margins of the "red zone" and converse at a distance. This, of course, was more feasible in the small-scale CCC than in the much larger, highly secure ETC.

Visiting and feeding patients

Visiting and food sharing is an important way in which enclaved community social bonds are expressed in the Sierra Leone countryside. Villagers are committed to a lifetime of visits with those to whom they are linked by kinship, marriage or patronage [15, 17]. Such visits cover a wide variety of social reasons. Sick visiting is always a high priority, especially for family members and in-laws. A visit to the sick involves offering prayers and good wishes, consoling and encouraging the sick person, and giving a helping hand to the carers. Food is often brought and shared.

Ebola disrupted normal patterns of sick visiting, and this threatened the expression of community solidarities. Initially, communities resisted the changes that were required. Patients were sometimes hidden, and burials were carried out in secret. But the disease is very dramatic, and quickly reveals, through the way it spreads from the first victim to close family carers, that it is spread by direct bodily contact. Faced with the losing a family member to a distant ETC or attempting home care, villagers experimented with ways of protecting themselves, while continuing to care for victims of the disease. Evidence concerning the use of improvised protective measures, such as plastic bags to cover the hands and face when nursing patients has been reported [1].

Families also continued to emphasis the importance of home feeding as necessary to recovery. Any such help was impossible in a distant ETC, but it became possible in a local CCC, where many of the kitchen staff were recruited from the

village, and willing to accommodate the wishes of villagers who brought home-cooked food for Ebola victims. ETC became better as time went by at community liaison [18] but distance ruled out home-cooked food.

In all, 227 statements by 195 people were made in response to prompts about whether the sick could be visited in CCC, and under what conditions; all referral villages were located in the same chiefdom administrative section as the village within which the CCC was located, so people in these villages were also asked what they knew and felt about the CCC, even though it was not located in their village. A substantial proportion (56%) of all responses concerned whether or not families were permitted to visit and help care for patients in the CCC.

Statements were often carefully qualified – for example, that centres allowed families to visit and communicate with patients, but not to enter "red zones", or that home food was accepted, but families could not, themselves, serve it to patients, etc. About half of all discussants insisted that family visits and care were not permitted or encouraged. Discussants from villages with CCC were more likely to state that there was a possibility to visit patients, although this was also mentioned frequently in statements from the referral villages. A smaller number of responses commented that CCC provided free treatment, treatment for other diseases, and rapid testing for EVD. Feeding for patients was mentioned in ten per cent of statements. CCC care in non-Ebola cases was also sometimes highlighted. One man reported that "*my woman had a severe stomach ache, and she was treated, and given food at the centre, free of charge*".

Burial, funeral ceremonies, and reporting death of patients

Focus groups often raised issues relating to the safe burial regulations introduced to break Ebola infection chains. Official procedures required that corpses were

routinely swabbed to assess whether the deceased had died of EVD. From August 2014 all burials had to be carried out by a trained "safe burial" team, whether the swab was positive or not. The team would spray the corpse with chlorine and place it in a body bag. It would then be buried in a hastily prepared grave with only a minimum of ceremony. Initially, the family was excluded, but from November 2014 families were allowed to participate at a distance. All contact with the body was forbidden.

Burial teams also operated from some CCC. But here it was more feasible to notify families, and to arrange burial in the victim's own community, since this was now near at hand. Families were allowed to attend burials and observe at a distance. But repeated calls by communities to provide volunteers to be given the training and protective equipment to carry out their own safe burials were ignored or rejected by the international response.

Given the importance of funerals as ways of cementing social relations in enclave-ordered communities it was expected that many group comments would focus on the importance of involvement of families in burial. But since "safe burial" during the Ebola crisis involved new regulations imposed by the state it was also expected that some comments might reflect the hierarchical ordering under which village chiefs and elders administer rural Sierra Leone 's system of "customary" local government.

These expectations were met. In all there were 150 comments from focus groups pertaining to burial, funeral ceremonies, and reporting the death of Ebola patients. Of the evaluative statements, 71 (47%) were classed as being aligned with enclave-ordered perspectives and 33 (22%) were classed as being aligned with hierarchically ordered perspectives.

Instances of "enclave" perspectives included demands or suggestions that families be trained or empowered to carry out funerals. "*We will wear protective gear and do the burial ourselves*" was one statement. Another speaker insisted: "*Let the CCC give [us] protective gear (gloves, and PPE) and hand over the corpse to the family members, who will wash and dress [it] and pray on the corpse.*" People were not opposed to protective measures as such, but wanted family members to be trained to apply these measures: "*The CCC [staff] should bring the corpse to the family and give the family protective gear to bury their dead.*"

Other comments requested burial teams to permit family members to attend burials, wanted teams to bury victims on family land or in the victim's village, and hoped that "safe burials" by CCC staff would follow village ritual practices. The idea of excluding families from burials was a source of concern; one commentator remarked: "*the government will bury them; the family will never see the corpse*", implying that a "government" burial would be a scandal.

A second, less extensive set of 34 statements, contained items reflecting or endorsing the government-mandated Ebola bye-laws. Based on rules first developed by chiefs in Kailahun District (the epicentre of the disease in Sierra Leone) these requirements were promulgated as a national set of bye-laws for Ebola control in August 2014 [19]. Typical statements repeat bye-laws or refer to epidemiological issues. For example: "The burial team will bury the way authorities (require), (supervised) by health officers" or "let the burial team continue to do the burial, as they have been doing" and "I will advise (that] we call the burial team to come and do the burial, to avoid the spread of the sickness."

Thirdly, enclave ordering imposes a strong emphasis on the manner of reporting death. It requires it to be done in a timely but formal manner, by those with direct knowledge of the circumstances, reporting to heads of the affected families.

Anything casual, approaching rumour or gossip, is frowned upon. In the case of an elder, a word out of place may attract a fine. This is because the enclaved rural community in Sierra Leone is a self-monitoring entity. Families must inform each other; reliance on state machinery for reporting births and deaths is not yet accepted as a matter of course.

Focus group members were asked to discuss their preferred ways to be informed about the deaths of Ebola victims. As expected, many comments stressed the importance of face-to-face reports from the case handling centre to the appropriate family head. It was not clear from focus group comments whether there was an agreed protocol for reporting deaths to families. It was said that sometimes reporting went via chiefs. But it was seen as helpful that centres were close enough

to permit visits, and some deaths were reported in the required face-to-face manner, perhaps because they employed local people, who knew the families and what to do. In fact, tradition is flexible, and a good number of people reported that they considered a phone call or radio announcement to be acceptable. These are widely used media in funeral practice in Sierra Leone. Such announcements allow scattered family members to be fully and quickly informed. The issue is more about the routing and timing than the medium. The key feature is that the message goes in a timely manner to the correct recipient.

Acquiring land to set up a CCC

A potentially troublesome of clash of institutional values between communities and responders concerned the acquisition of sites for CCC. Land is a controversial issue in rural Sierra Leone because it brings up a compromise made by the British colonial power at the beginning of the 20th century over the authority of the state versus land-owning families. The Paramount Chief is “custodian” of the land but

brokers the competing interests of families and government. International Ebola responders wanted land for CCC quickly. For this they turned to Paramount Chiefs for rapid action, but there was often a push-back from families, who pointed out that the ultimate decision rested with them. CCC were welcome, but not necessarily on "our" land. In this respect, there was a clash of interest between responders and communities.

Names of landowning families are well known to the communities though people tend not to advertise ownership openly. In any land decision both landowning families and chiefs must be involved. A participant in one focus group discussion put the point neatly, when stating that "*The chief should be approached for him to lead you to the landowner. The land-owner will now negotiate with the person who wants the land.*"

The focus group data show that families offered land free as a gesture of community solidarity, but welcomed or required acknowledgement: *"We were consulted by the Chief and we accepted to give the land even though they did not pay for it, but we were respected in the process of gaining the land.*" This demand for respect served to reinforce the basic local viewpoint that all land is family land, and cannot be expropriated, even in an emergency. Family sovereignty is also apparent in focus group extracts expressing disgruntlement and compromise over land (see supporting data). Some statements expressed both dissatisfaction and concern: "*We were not happy (with) how we were treated. We had wanted to cause confusion [create trouble] but [we did not because] we were thinking of the Ebola disease*."

Discussion

The present study has analysed family responses to Ebola community care centres. Some of the ways CCC opened pathways to community participation in Ebola care, e.g. through family involvement in food preparation and in inclusion in burial processes, have been traced. The evidence suggests that CCC were well received by communities and led to improved relationships of trust between communities and responders, despite some problems in set-up and execution.

Location of case-handling facilities proved to be a crucial issue. Some responders felt that in a small country with good main roads, accessibility to case-handling centres was not a major problem [6]. This was to ignore the poor state of many access roads, and to misunderstand the obligations placed upon family members to be present in helping care for the sick.

Accessibility is not to be measured in miles by ambulance but in terms of the logistical challenges associated the family accompanying the patient. For example, people in Kambia were reluctant to allow their loved ones to be taken to the ETC in Port Loko, only twenty miles away on a very good road, because they did not have the connections and resources needed for family attendance. Who would prepare food and be on hand when the patient needed encouragement?

Community Care Centre helped address this issue by bringing case-handling closer to families. Previous work has offered evidence of shorter times to presentation for CCCs relative to ETCs [2]. When the only option was referral to an ETC, families hid patients with high fevers, but once the CCC option was available families were more forthcoming in bringing cases for assessment. Most diagnoses were of malaria, and this was treated, and the patient discharged, to the

relief of the family. If the diagnosis was of EVD, the CCC helped cushion the shock for both patient and families. Where before there was panic, and an ambulance driving to Bo or Kenema at high speed with sirens wailing, there was now a more calm and considerate process. It would be explained to the family that the best chance of survival was transfer to an ETC. But the CCC was equipped to accommodate an EVD patient if it was too late to arrange safe transport. The carers at the CCC were often themselves members of the local community, and their advice was trusted. CCC were small enough, and the structures were physically open enough, to allow family members to communicate directly with the patients from the perimeter of the facility. Messages would be sent to patients to hang in there, and not to lose heart; community expectations for family support were audibly maintained.

Directly caring for the sick and sharing of family food are important ways in which families reinforce social solidarity. Focus group discussants insisted that this expression of solidarity helps patients survive a devastating disease. Home cooking encourages the will to live. They view it as an essential part of treatment. This insistence provides, in turn, some lessons for the improvement of ETC, modified to function more like CCC in social terms. For instance, transport could be hired to allow family members to follow referrals. Camps could have been built for their accommodation next to each ETC. Equipping such camps with kitchens stocked with firewood, water and other supplies to facilitate preparation of familiar food would be no more complex than building and equipping the kitchens already part of standard ETC design. Members of families would then be able to continue to take part in the monitoring and feeding of the patient, even if visiting the "red zone" remained out of bounds.

The focus group material brought out the enormous significance of the issue of safe and dignified burial. Some patients died in CCC, either from non-EVD diseases or because it was not possible to transfer them to an ETC. CCC were built at a time when the problem of safe and dignified burial had been recognised by the authorities. Although "safe burial" crews did the actual interments staff encouraged families to attend, and this was appreciated by discussants. Attendance was feasible because the families lived locally. This threw into contrast a major problem with the ETC, that family members were often many miles distant with poor communications and did not know when their loved ones had died or where they were buried.

Discussants were divided about the role of the family in Ebola burial. Some accepted burial by trained teams as necessity, both for biosafety and in respect of national byelaws on "safe burial". Others argued strongly that families could and should have been equipped and trained to do safe burial for themselves, because it was said (for example) that burial teams were never on time, that corpses were not washed and dressed in *kasankei* (grave clothes), that there was no final farewell and prayers for the dead, and that burial team members were strangers to the deceased. The issue of the land acquisition for building CCC proved somewhat controversial. Land belongs to families, and not to government or the chiefs. Focus group materials evidenced difference between those who believed the government or chiefs had a right to acquire land to build CCC and a greater number of discussants who insisted that the land belonged to land-owning families, who should have been consulted, despite the urgency of the epidemic. Examples of "good practice" – CCC going through the right channels, for example - were also noted. Some families offered land specifically to help communities fight EVD. But disgruntlements over land sometimes surfaced, even though

generally set on one side because of the epidemic emergency. Given the small amount of land needed for both CCC and ETC it is perhaps surprising that acquisitions of temporary leases proved so contentious. The more general point needs to be taken that an improper approach to land acquisition is seen as a threat to community cohesion.

It is perhaps worth adding that there were few obvious differences between the opinions expressed in the CCC centre villages and the referral villages, other than some comments about whether the right village had been chosen – some would have preferred the referral village to have been the CCC village, others were glad it was not.

The CCC intervention helped draw attention to the role of local knowledge brokers in the process of community adaptation to the risks of Ebola. The shift to a policy of "safe and dignified burial" in November 2014 brought out the role played by Imams and Pastors in gaining acceptability for changes in burial practice. CCC later benefited by being able to make use of the influence of these local knowledge brokers.

Herbalists and Traditional Birth Assistants (TBAs) are equally influential in rural communities. They are trusted in villages because they are resident, and accessible when needed. During the EVD epidemic in the Sierra Leone they were deliberately by-passed. This was because of a fear that incautious handling of Ebola patients would spread infection. Early on in the epidemic stories circulated about "witch doctors" pretending to cure Ebola but instead spreading the disease. The government then banned herbalists from practising for the duration of the epidemic. From the perspective of communities this might have been a mistake. Herbalists spread the disease in a few early instances because they did not at that

stage know what they were dealing with. They became agents of infection not through wilfulness, but because they were the helpers of last resort. Professionally trained medical practitioners also spread the disease in the earliest stages of the epidemic, when it remained unidentified, because they lacked the training and resources to deal with it. Like doctors and nurses, traditional birth attendants and herbalists quickly learned about the dangers of EVD and modified their practices. As highly respected authorities, they could have been used to spread correct knowledge of the disease. This is a topic on which further research is now needed in Sierra Leone (for Ghana, see [20]).

Home care is another salient point for debate. There is some evidence that CCC helped to get people to report EVD cases earlier in Sierra Leone, and so contributed to epidemic downturn [2]. But some communities were still too remote for patients to be moved quickly. In such a case a hammock might be needed. This is an expensive process and takes time to arrange. Moving the patient in the "wet" phase could be highly hazardous to the carriers. Guidance and supplies to permit safer home care are potentially helpful for such extreme cases.

A protocol for coping with an Ebola patient at home while waiting for help was released by the US Centers for Disease Control in November 2014 [1]. Some knowledge about quarantining patients in farm huts was retained by communities from an era in which smallpox was still a scourge. A basic rule of a single carer, and the rest of the household providing distant backup seems to have been applied. Some of this old knowledge was carried over to Ebola. It is perhaps not insignificant that the Mende word for Ebola – *bondawote* – means "*family turn away*"

In sum, then, the policy of offering care for Ebola victims in small, quickly constructed handling units placed where EVD case numbers were rising, to complement large-scale ETC, received largely positive endorsement from rural communities in Sierra Leone. This applied both to CCC locations and to neighbouring communities. Evaluation, accessed through focus group discussions, confirms that CCC were compatible with community values concerning access to and family care for the sick. “Safe burial” was more controversial. This directly challenged a ritual activity seen as vital to maintaining good relations within and between rural families. Focus groups also found land acquisition to build CCC a controversial topic, but this can be interpreted as reflecting a larger problem of relations between communities and central government unresolved since the colonial era. This was not an institutional clash specifically related to EVD.

It is not advocated that CCC should replace the ETC in future Ebola outbreaks, such as that currently threatening parts the Democratic Republic of Congo. The main conclusion of this study is that evidence for the social acceptability of CCC in rural communities in Sierra Leone reinforces the case for a combined strategy, in which CCC are deployed as triage centres to screen out and treat malaria and other diseases, while directing EVD cases towards further specialist care in ETC. CCC also serve as effective learning sites through which communities can come to terms with the biological challenges of EVD without local norms of community support in sickness being undermined. In this respect, the experience of localised case handling in Sierra Leone offers lessons that can be usefully disseminated throughout the wider field of Ebola response.

5

CHAPTER 5

Peasant Grievance and Insurgency in Sierra Leone: Judicial Serfdom as a Driver of Conflict[6]

INTRODUCTION TO CHAPTER 5

Chapters 3 and 4 have argued that effective Ebola control required compromise between two kinds of institutional ordering – enclaves and hierarchy. Chapter 5 engages with and considers a different clash of institutional ordering – between enclave and competitive individualism.

Mary Douglas uses competitive individualism as a label for what economists more generally refer to as market values or competition. Chapter 5 argues that historically many communities in rural Sierra Leone have been made up of two differently organised groups of people – inter-married land-owning families, and a group locally known as "strangers"; *hoteisia* or *hotangei*. *Hoteisia* are migrants who have attached themselves to one of the land-owning families and some *hoteisia* may also descend from a class of former slaves emancipated in 1928.

Both groups "borrow" land from the head of the family to which they are attached (their *hota kEE* = "stranger father"). Those who belong to land-owning families are (according to Douglas' theory) under enclave ordering (low regulation, high integration). Those who borrow land can be considered to be under the isolate category of social ordering in the Douglas theoretical scheme (high regulation, low integration).

Development since the beginning of the colonial period has brought about increased market integration. Increasingly, social relations come under the influence of competitive individualism and young people are especially likely to see themselves as individualists.

Many left the village to spend periods in urban areas or in the mining areas, working for cash. But their employment was precarious; some were then forced to return to the rural areas to eke out a living in agriculture. Not all are willing to return to the constraints of enclave or isolate ordering and so seek to continue live a more individualist existence among others in the village with the same background. This "modern" transactional attitude extends to their sexual relations. Members of this group of village individualists show little respect for the rules of "enclave" marriage and think themselves free to form relationships where they choose.

Chapter 5 shows that this poses a free-rider problem for the land-owners, who attempt to manage the issue by bringing young men before the court for "woman damage". The chapter establishes that this is not an issue of sexual jealousy, but one with institutional causes. Incidence of "woman damage" varies in local courts with seasonal demands for labour on household upland rice farms (and only that class of farms). Court cases for "adultery" in effect force young men to offer the bride service they would have offered to their "fathers-in-law" (Mende *mbleisia*) under the enclave system of social ordering.

Chapter 5 also makes the argument that this attempt to enforce enclave values drove some young men out of the villages because they could not pay the fines. This fed recruitment to the rebel forces and was thus a factor in causing the civil war. The resolution to the problem involved changes in post-conflict rural employment opportunities for young people, discussed in the conclusion to the thesis (Chapter 6).

CHAPTER 5

Peasant Grievance and Insurgency in Sierra Leone: Judicial Serfdom as a Driver of Conflict[6]

Esther Mokuwa, Maarten Voors, Erwin Bulte, Paul Richards*

* Esther Yei Mokuwa, Maarten Voors, Erwin Bulte, Development Economics group, Paul Richards, Technology and Agrarian Development Group, Social Sciences Department, Wageningen University, PO Box 8130, 6700 EW Wageningen, The Netherlands. Corresponding author: paul.richards@wur.nl.

Abstract

Was the civil war in Sierra Leone (1991-2002) fought for diamonds, or was it a peasant insurgency motivated by agrarian grievances? The evidence on both sides is less than conclusive. The present paper scrutinises the peasant insurgency argument via a more rigorous methodology. Hypotheses concerning intra-peasant tensions over marriage and farm labour are derived from an examination of the anthropological literature. These are then tested using econometric tools, applied to data from a randomised household survey in 178 villages surrounding the Gola Forest in eastern and southern Sierra Leone, the cradle of the war. It is shown that a decade after the war ended peasant disputes over marriage continue to mark out an incipient class divide in these isolated rural communities, as evidenced by cases presented in local courts and family moots. Disputes mainly involve a village elder suing a young man with weak social protection. Fines are exceptionally high. The probability that most fines are paid off in the form of coerced farm labour is indicated by the statistical finding that cases are strongly associated with two periods of peak labour demand on upland rice farms. It is concluded that grievance over this long-standing form of labour coercion fed insurgency and contributed to the otherwise puzzlingly high levels of peasant-upon-peasant violence associated with the war in Sierra Leone. The hazard of judicial serfdom remains current despite post-war attempted reforms.

[6] Published in *African Affairs* 2011

INTRODUCTION

The civil war in Sierra Leone (1991-2002) has occasioned much academic dispute. To some, the insurgency of the Revolutionary United Front (RUF) is a typical instance of "new war" fought for economic rather than political objectives.[7] The RUF was pure-and-simple a bandit organization motivated by pursuit of diamond wealth. To others, the conflict was an instance of peasant insurgency, as commonly encountered in backward agrarian societies.[8] Ranajit Guha has provided a richly detailed analysis of such insurgencies.[9] Guha is at pains to point out the political nature of, for example, looting, while at the same time explaining the "negative" consciousness expressed in such actions as a desire to turn the world of the oppressive landlords, chiefs and money lenders on its head, often through symbolic and willful acts of destruction. Peasant insurgency reflects not a desire for material gain but a rudimentary class consciousness, and the failure of national politics to embrace and shape it.

Testing either of these hypotheses, in regard to the war in Sierra Leone, is not far advanced. The country was not included in the data set from which the greed-not-grievance model was first propounded.[10] A comprehensive conflict mapping exercise for Sierra Leone uncovers remarkably little evidence to link rebel activities with mining in the first part of the war, a necessary connection if the

7 See, for example, Ian Smillie, Lansana Gberie and Ralph Hazleton, *The heart of the matter: Sierra Leone, diamonds and human security.* (Partnership Africa-Canada, Ottawa, 2000)
8 Paul Richards, 'To fight or to farm? Agrarian dimensions of the Mano River conflicts (Liberia and Sierra Leone)', *African Affairs* 106, no. 417 (2005), pp. 571-90. One study - Macartan Humphreys and Jeremy Weinstein, 'Who fights? The determinants of participation in civil war', *American Journal of Political Science*, 52(2), (2008), pp. 436-455 - finds quantitative support for both greed and grievance hypotheses in Sierra Leone.
9 Ranajit Guha, *Elementary aspects of peasant insurgency in colonial India,* (Duke University Press, Durham NC and London, 1999 [originally published 1983])
10 Paul Collier and Anke Hoeffler, *Greed and grievance in civil war*, (Policy Research Working Paper 2355, World Bank, Washington DC, 2000). This paper, which revises an earlier (1998) version of their greed-not-grievance argument, links the war in Sierra Leone to diamonds in its summary findings, so it is a surprise to find that the country is absent from the data set to which the analysis refers.

country's rich alluvial diamonds deposits are to be counted as drivers rather than sustainers of conflict.[11] Some interview material has been offered as evidence to support the argument concerning agrarian backwardness,[12] but potentially self-serving testimony from ex-combatants is not always fully convincing.

In the present paper we aspire to advance the peasant insurgency side of the debate, but through use of a more rigorous methodology than hitherto attempted by supporters of this explanatory approach. Our approach is to derive hypotheses from anthropological accounts of agrarian institutions indicated in the literature to be important sources of incipient peasant inter-generational or class conflict, and then to test these hypotheses quantitatively, using econometric methods. Our main data source is a large randomised household survey from 2010 in which we recorded answers to questions about household organization, marriage patterns, farming activities, and everyday disputes, from villages around the Gola Forest in eastern and southern Sierra Leone. This region, bordering Liberia, was the initial focus of the war, and the only part of the country where the rebel RUF could claim any degree of voluntary support.[13] We do not rely upon any data gathered in direct

11 L. A. Smith, C. Gambette and T. Longley, *Conflict mapping in Sierra Leone: violations of international humanitarian law from 1991 to 2002* (Report: No Peace Without Justice, preliminary edition for the opening of the Special Court for Sierra Leone courthouse, 10 March 2004). In this source, all but one early reports of diamond mining by militia factions are credited either to government forces or to international (Nigerian and Liberian) auxiliaries (see, for example, chapter for Pujehun District, pp. 484 and 497). Crucially, rebel RUF units entered the main Kono mining district from June 5th 1991 (so had the chance to become involved in mining at an early stage) but are reported to have been concerned only with ideological and organizational activity (see chapter for Kono District, pp. 332-339). There is no dispute, however, that all factions became involved in diamond mining during the later stages of the war – in part, at least, to support their armed struggle.
12 E.g. Richards, 'To fight or farm?'
13 The RUF was a divided movement at the outset. It contained two groups - Sierra Leonean insurgents intent on a reform agenda, beginning in the rural districts, and Liberian and Burkinabe mercenaries “lent” by the Liberian warlord, Charles Taylor. Taylor (for his own purposes) wanted the RUF rapidly to advance on Freetown and capture the state. The mercenaries alienated local support for the RUF through atrocities associated with the intended rush to the capital. The RUF managed to rid itself of the Liberians in 1992 but gained little support additional to marginalised peasants it had first encountered around the Gola Forest. The military situation was complicated by a British/South African private security company counter insurgency plan, which provoked an army coup. British semi-official support for a counter-coup was then uncovered, stalling efforts to restore the elected government. Sight of the RUF in the later stages of the war was lost among the multiplying renegade army units and counter-insurgency factions. An RUF political party was founded as a result of peace negotiations in 1999 but

response to questions about causes of war, to avoid the problem of self-serving testimony.

The RUF first entered the country from Liberia at two points north and south of the Gola forest, and subsequently entrenched itself in the circum-Gola region. Its main headquarters camp was for a number of years in the south-western arm of the Gola chain of reserved forests (the Zogoda, in Koya Chiefdom, on hills overlooking the Moa river). There were foci of support for the RUF in Pujehun District (notably Soro Gbeima chiefdom) and Kailahun District, lying to the south and north of the main forest belt respectively.

The RUF remained in control of large parts of Kailahun District to the end of the war in 2002. Its stated war aims were to overthrow the state and restore multi-party democracy, and to introduce a populist (Libyan-inspired) style of government. The clearest instances of its intended reforms are to be found in the circum-Gola region. If the peasant insurgency argument is to be sustained it is necessary to show that there were divisive agrarian issues – equivalent to the rack-renting and loan sharking described in Guha's classic account of peasant insurgency – affecting this region, and with which the RUF could align.

Here we examine the case of rural marriage - and in particular disputes over 'woman damage' (adultery) - as a key divisive agrarian issue. The Mende phrase is *nyaha yia* (*nyaha* = woman, *njia/yia* = dispute or trouble). "Woman trouble" would avoid the mis-implication that the term refers to violence against women. But since the translation 'woman damage' is widely used in English in Sierra Leone we retain its use here. We will show that the nub of the problem over 'woman damage' is agrarian labour mobilization. An underclass of young men

---

was undermined by the arrest and long-term detention without trial of the greater part of its civilian activist membership 7-8 May 2000.

become tied and indebted to larger farmers through inability to find legal marriage partners. Farm labour rates, not land rents, become the fulcrum of exploitation linking village elites and an underclass, and thus a factor plausibly predisposing exploited young male farm labourers towards insurgency.[14]

An overview of the peasant marriage problem in rural Sierra Leone

A randomly sampled national survey of ex-combatants from the war in Sierra Leone found that the two peak years for recruitment into the RUF were 1991-2, and that more than 60% of fighters were from Eastern province. This implies that a substantial number came from the Liberian border zone, where the movement first established itself.[15] When asked about benefits of joining the movement only a handful mentioned the lure of diamonds. A surprisingly large number – nearly quarter – stated that by joining the movement they had been able to find a husband or wife.[16] Could difficulties over forming marriage partnerships have been a factor driving some young people into the arms of the RUF?

Marriage among peasant communities in rural eastern and southern Sierra Leone depends on bride wealth and bride-service payments. For a young man to find a spouse – without which he can hardly farm independently or found a family – the assistance of an elder is generally required.[17] This might be the mother's brother,

14 Revolutionary United Front of Sierra Leone, *Footpaths to democracy: toward a New Sierra Leone.* (RUF/SL, No stated place of publication, 1995).
15 Macartan Humphreys and Jeremy Weinstein, *What the fighters say: a survey of ex-combatants in Sierra Leone, June-August 2003* (Report: CGSD Working Paper No. 20, Columbia University, New York, NY 2004).
16 Humphreys and Weinstein, *What the fighters say*, state that 'Perhaps surprising, given the amount of attention it has received internationally, diamonds did not figure as an important incentive for participation...[and] For the RUF, close to a quarter of respondents admitted receiving wives/husbands after military operations.' (p. 27).
17 The term "elder" requires clarification. In the ranked lineage societies of eastern Sierra Leone it implies seniority in a ruling lineage, and not necessarily age. The Mende language has the term *numu wai* (lit. big person). "Big persons" can be female as well as male, and some Mende Paramount Chiefs are female. A female Paramount Chief will be a woman of especial ability. But she must also come from a ruling family (i.e. a high ranked lineage). In what follows the word "elder" generally implies a male elder.

from whom the young man can claim a daughter under the institution of the avunculate (literally "uncle marriage" but often the marriage of cross-cousins).[18] Little or no bride wealth will be demanded for such a marriage. The disadvantage is that the young man remains indefinitely obligated to his uncle. In former times an uncle could sell his nephew into slavery in repayment of debts.

The father or other elders in a wealthier peasant family might help a young man seeking a marriage partner to make the higher payments required for a spouse from a family unconnected by the avunculate. A stranger (someone resident in the village but born outside the chiefdom) might turn to his patron (an established citizen) for help in finding a wife. In former times, a wealthy farmer might redistribute young women under his care as partners to his male slaves.[19] In addition to bride wealth payments, lengthy periods of bride service (work without pay on the farm of the father-in-law) may also be required. Due to the existence of quite high rates of polygamy[20] among wealthier village males there are few younger unmarried women available in the village, and marriage contracts are sometimes made for new-born girls. This in effect means that the man in question will not marry until he approaches middle age.

Young men and women commonly form liaisons outside these marriage rules. For a young man from a poor family (e.g. one with a former slave background) unable to raise the necessary bride wealth, or for a recently-arrived migrant stranger, taking a "girl friend" is often the only option. Such alliances are sought

18 For an account of the avunculate among the Loma, a group living astride the Guinea/Liberia border and linguistically and historically closely related to the Mende see Michael McGovern, 'Idioms of affinity and difference: the keke-daabe relation', ch. 6, *Unmasking the state: developing modern political subjectivities in 20th century Guinea*. (Emory University, Atlanta, Unpublished PhD dissertation, 2004). On theoretical debates among anthropologists about the avunculate see Maurice Bloch and Dan Sperber, 'Kinship and evolved psychological dispositions: the mother's brother controversy revisited', *Current Anthropology* 43(5), (2002), pp. 723-748.

19 On the institution of slavery among the Mende see John Grace, 'Slavery and emancipation among the Mende in Sierra Leone', In *Slavery in Africa: Historical and Anthropological Perspectives*, eds., Suzanne Miers and Igor Kopytoff. (University of Wisconsin Press, Madison, WI 1977).

20 Specifically, polygyny (a male married to several females).

by young women married to elderly and neglectful polygamists. Sometimes, as we shall see, the neglect is deliberate, since it enables the elder to bring the young man into his pool of loyal clients. In particular, it allows the elder to demand farm labour from his wife's young paramour. If such service is refused, he charges the young man to court, and sues for ‘woman damage’. The fines are generally steep. Often, the young man cannot pay, and will work off his fine by labouring for the offended party, as a kind of retrospective bride service. This puts into context the finding that significant numbers of RUF cadres welcomed the movement as a source of marriage partners. It allowed them to break free from a restrictive customary institution.

In the remainder of this paper we further characterise the marriage institution just described, ask about the frequency and continuing importance of ‘woman damage’ cases, both across the country and in the region from which the war sprang, and assess statistically significant associations between ‘woman damage’ disputes and farm labour demands, to test the hypothesis that it is, in fact, an institution enmeshed with mobilization of farm labour. A memory connecting adultery to slavery lives on.[21] The relevance of the study is that in addition to suggesting the plausibility of an argument linking conflicts between poorer and wealthier male peasants over ‘woman damage’ to recruitment to the RUF it also shows that woman damage disputes remain of current significance in the area from which the war originated. This throws light on debates about both causes of the war and post-war reconstruction policy in Sierra Leone.

---

21 A link between marriage infringements and forced labour in the vicinity of Sierra Leone is long established. Fr. Manuel Alvares, writing at the beginning of the 17th century, states that among the Sapes (the inhabitants of Sierra Leone and its vicinity) “adulterers are punished with death or enslavement” (unpublished manuscript of c. 1615, *Ethiopia Minor and a geographical account of the Province of Sierra Leone*, in the provisional translation of Paul Hair, 1990), ch. 3. Thomas Winterbottom, writing about courts at Sierra Leone in the 1790s, states that “woman palaver or adultery” is one of the kinds of “cases in which life or liberty of the accused are endangered”, adding that “slavery is the usual punishment” (*An account of the native Africans in the neighbourhood of Sierra Leone*, v. 1, 1803).

A neo-traditional policy favoured the reinstatement of the pre-war system of rural governance based on paramount chieftaincy and local courts, as devised under British colonialism for purposes of indirect rule. This neo-traditional policy was originally closely linked to a controversial counter-insurgency strategy of strengthening "indigenous" civil defence.[22] Since the war, attempts have been made to reform chieftaincy institutions from within. Some local courts now boast posters advising villagers to keep their marriage disputes within the family, and court clerks state that they try and discourage suits for woman damage. As our data will show it is indeed the case that most woman damage cases are settled at the informal level, by family moots, but that the fines levied at this level are even higher than those levied in court. Taken with our other main finding, establishing a link between woman damage and farm labour exploitation, this suggests that the agrarian marriage institution continues to bear down heavily on rural young men without strong social support. The local market for agrarian labour is far from free, and while this situation prevails a risk that serfdom will feed peasant revolt will remain.

'Woman damage' and local justice

According to legal ideas among the Mende people, the tort of 'woman damage' arises when it is established that the accused has formed a sexual liaison without

---

22 One of us (PR) was present at a meeting in the UK Foreign Office in 2001 to discuss post-war reconstruction in Sierra Leone at which the former British High Commissioner to Sierra Leone, Peter Penfold, claimed to have been the first to moot the idea of a restoring paramount chiefs. His reasoning was that an empty countryside was open terrain for rebel activity, but that returning chiefs would encourage civilian recolonization of the countryside. Mr. Penfold's presence in meetings to plan the counter-insurgency strategy for Sierra Leone devised by a British security company, Sandline, in 1997, is documented in the parliamentary report by Sir Thomas Legg and Sir Robin Ibbs, *Report of the Sierra Leone arms investigation: Return to an Address of the Honourable the House of Commons dated 27th July 1998*, (Stationery Office, London, 1998).

meeting the requirements for having such a relationship (e.g. by paying bride wealth, performing bride service or entering into some kind of clientship agreement with the plaintiff). A pioneer analysis of 'woman damage' was provided by Kenneth Hubert Crosby, a missionary working among the Mende from 1929.[23] Crosby roots 'woman damage' in polygamy (polygyny).[24] Polygamy (he states) "is a social system, and is intimately bound up with the subject of property and labour, and the difference in status among men and women" (p. 249).

Characterizing different forms of rural Mende marriage, as he encountered them in the 1930s, Crosby draws attention, first, to the incidence of cross-cousin (avunculate) marriage, which he associates with matrilocal residence and monogamy, as a secure form of relationship for partners from non-elite backgrounds, involving little or no bride wealth but a sustained commitment to provide work on the mother's brother's farm. Second, he turns to the marriages of the Mende rural elite, i.e. those involving men from high ranked lineages. In a survey of 20 small towns and villages in eastern Sierra Leone, Crosby found that 51% of all married men had two or more wives. In all, 842 men were married to 1973 women. Only 82 women of marriageable age were unmarried, but there were 673 unmarried men of marriageable age in the sample. The upshot is that many commoner men of marriageable age had no reproductive partner, and found female "friends" where they could, especially among the large number of unsupervised wives of high-ranking chiefs.[25]

Crosby points out the strong link between marriage and upland rice farming (the main mode of subsistence among the Mende). Rice farming is based on a gender

23 Conrad Tuchscherer, 'Kenneth Hubert Crosby (1904-1998): pioneer scholar of the Mende language', *Journal of African Cultural Studies* 11(2), (1998), pp. 217-220.
24 Kenneth Hubert Crosby, Polygamy in Mende country', *Africa* 10(3), (1937), pp. 249-264.
25 Crosby adds that some chiefs had up to 300 wives (but these chiefs were not part of his sample).

partnership.[26] Men fell and clear trees and plant; women plant, tend and weed the farm, and process the crop. Both genders are involved in the harvest. The upshot is that one man with several or many wives has enough labour to tend a farm, but perhaps not enough to prepare it. “The chief difficulty (Crosby writes) is in getting the necessary young men... It is, however, only a theoretical difficulty. The usual way is to neglect one's wives and employ their 'friends'.” He then describes a ‘woman damage’ case:

> *Aruna had a wife Jeneba, with whom a young man had been co-habiting for years. This young man arranged to go away..., but on the eve of his departure he was taken to court on a charge of adultery with Jeneba. As he had nothing with which to pay, he had to stay where he was. In other words he had become a serf.*[27]

Crosby perhaps used the term “serf” (unusual in a country which never knew feudalism) because of local sensitivity surrounding the (then) recent emancipation of slaves (in 1928). We adopt Crosby's term in this paper, since it clearly distinguishes our topic – coerced and unwaged farm labour – from slavery as a system in which persons are bought and sold.

Crosby's account is consistent with later ethnographic literature for the forest region of eastern Sierra Leone and North-western Liberia. For the Mende, Kenneth Little states that “Polygyny represents a form of capital investment... by deliberately allowing their wives to attract young men, some husbands are able to turn the misdemeanour [‘woman damage’] to a profitable account”.[28] Writing

26 Paul Richards, *Coping with hunger: Hazard and Experiment in an African Rice-farming System*, (Allen and Unwin, London, 1986), p. 68, Mariane Ferme, *The Underneath of Things: Violence, History and the Everyday in Sierra Leone* (University of California Press, Berkeley CA, 2001), pp. 43-47.
27 Crosby, 'Polygamy', p. 254.
28 Kenneth Little, *The Mende of Sierra Leone: a West African people in transition*, (Routledge, London, 1951), p. 142.

about the Kpelle, a group culturally and linguistically related to the Mende living to the east of the Gola Forest in Liberia, Caroline Bledsoe states that “the most important way in which elders lure and hold on to young men is by the careful accumulation and deployment of young women”.[29] Like Crosby and Little, she is explicit about a “honey trap” element: [elders] “use rights in young women not only to reproduce and to gain labour for supporting their immediate families, but also to lure young men into ties of debt and obligation”.[30]

Below, we present specific data on the frequency of cases, showing that ‘woman damage’ remains one of the most important classes of action before local courts in the Gola region.[31] But first we want to comment on the current relevance of Crosby's claim that cases were particularly associated with meeting labour demands on upland rice farms.

Among the Mende, the upland rice farm remains the focus for household food security. Swamp rice farming has been resisted by Mende farmers for many years.[32] Most households in the Gola region engage in some swamp production, but it is generally seen as a supplement not a replacement for the household upland rice farm. This is because dryland rice is liked better, and upland farms also produce a large range of inter-crops. But it is also because upland farming is a household project. It involves a division of labour between men and women and adults and children that reinforces notions of familial social cohesion.[33] A village household without an upland farm is seen as somehow not fully constituted.[34] In

29 Caroline Bledsoe, *Women and marriage in Kpelle society* (Stanford University Press, Stanford CA 1980), p. 55
30 Bledsoe, Women and marriage, p. 48
31 See Table 2.
32 Richards, *Coping with Hunger*, chs. 1 and 2.
33 On the household division of labour as a basis for social cohesion see Emile Durkheim, *The division of labor in society*, trans. G. Simpson (Free Press: New York NY, 1964 [1893]).
34 Richards, *Coping with Hunger*, ch. 4.

this sense, the upland farm not only produces food (often an area highly resistant to change) but also has social significance in reproducing the (conservative) agrarian values of a ranked lineage society.

It is this conservative nexus that is particularly significant to our analysis, since this is where we feel there may be a clue to the causes of the war. The RUF entered Sierra Leone proclaiming the slogan "no more master, no more slave".[35] This specifically targeted unpaid labour, not poor rural wages. Below, we will look particularly closely at evidence that 'woman damage' is connected with the unpaid labour requirements of subsistence rice farming, and upland rice farming in particular, rather than other areas of agrarian production, such as plantation crops, where labour is rewarded in cash.[36]

Now we turn to the courts in which cases of 'woman damage' are judged. Local courts, created by the colonial regime as institutions of indirect rule, have been retained as the basis for rural justice from the end of the colonial period until now. Local courts administer customary law. A main documentary source of customary law remains a national survey undertaken by a District Commissioner, J. S. Fenton, published in 1927 (revised 1943).[37] Cases divide into civil and criminal. Civil cases mainly concern disputes over land, debt and woman damage. Criminal cases concern theft, affray, defiance of the authority of a chief, and breaking local bye-laws. Bye-laws are proposed by chiefdom councils, scrutinised by the local courts officer for each province, and presented to parliament for endorsement. Table 1 lists the current bye-laws for one Gola Forest chiefdom (Malema).[38]

35 FN 27. Richards, 'To fight or to farm?', p. 582.
36 It is relevant to ask why young men do not escape this traditional net by planting tree crops or making swamp rice farms. The answer is that some do, but generally only those with strong rights of land access (i.e. those belonging to the main land-owning lineages).
37 J. S. Fenton, *Outline of Native Law in Sierra Leone* (Government Printer, Freetown, 1948).
38 It is worth noting that four out of 14 of these bye-laws concern sexual misconduct. More serious cases (e.g. murder) are handed over to the state police and thereafter to the district magistrate's court, to be tried under national criminal law.

1	Refusing to answer the Chief's call
2	No fighting
3	No use of abusive language
4	No theft
5	Failing to do communal work
6	No sex with other man's wife
7	Children are not allowed to appear in court
8	Impregnating female child under 18 years
9	Breach of contract - Defaulting [to] refund money and food for work
10	No killing of bush cow, crocodile
11	Refusal to do general cleaning - last Saturday of each month
12	No sexual intercourse in the bush
13	No raping
14	All power saw owners must have license

Table 1: Typical Bye-laws (as enacted by Malema Chiefdom)
Source: From local court records, Courts Survey, 2010

Local court premises are found in every chiefdom headquarters town, and in section towns in larger chiefdoms. Courts typically meet for several days each month, depending on case load. Court chairmen preside over court sittings, assisted by assessors. Chairmen are a type of lay magistrate, knowledgeable in local custom and history. They are appointed by central government.[39] Sentences are enforced by court officers, known as chiefdom police. The first line of appeal from a local court is to the local courts officer (a trained lawyer) of the provincial

39 Historically, local courts belonged to Paramount Chiefs. Subsequent reforms handed the chairmanship to persons appointed by government. This supposedly was to check abuses by high-handed chiefs but opened local courts to political manipulation from the centre.

administration. Local court decisions in conflict with national law will be struck down by the local courts officer. Appeals from customary cases can also be considered by a special panel of customary law experts in the court of appeal in Freetown.

Local courts are not the only sources for local justice in rural Sierra Leone. To gain an idea about disputes settled informally outside the ambit of local courts we asked panels of village informants to estimate the number and type of disputes affecting people in their village over the past decade, in relation to those reaching court. From these estimates it became apparent that local courts handle only a small proportion of local disputes, and that we needed to modify our methodology to embrace informal dispute resolution as well.

There is often a preference by disputants to have their case heard informally by the Paramount Chief or some lesser chief (most commonly, a village chief). These informal hearings have no official status but belong to the sphere of Alternative Dispute Resolution (ADR). The family moot is one such means.[40] Arbitration by moot is popular because it often works out cheaper; formal court fees are avoided, though fines are still paid.

Formal court proceedings are sometimes favoured by plaintiffs, despite costs, when there is significant doubt about the willingness of the parties to settle. A defendant found guilty in an informal setting is often more likely to succeed in "begging" a reduction in the punishment. In a local court the defendant unable to pay the fine or reach an out-of-court agreement faces a period in the lock-up attached to the court (in the "dark room", as it was graphically described to us by one court clerk) until a patron or relative steps in to cover the fine.

40 James Gibbs, 'The Kpelle moot: a therapeutic model for the informal settlement of disputes', *Africa* 33 (1963), pp.1-11.

A second, more drastic option, to deal with steep fines imposed both by local courts and ADR is to abscond. However, becoming a fugitive from justice is a far from costless solution, since all "strangers" (Mende: *hota*, a person living outside their chiefdom of birth) need to find a patron and protector (Mende: *hota kee*, literally "stranger father") in any location to which they move. This patron is responsible to the village and chiefdom authorities for the good behaviour of the guest, and where it is suspected that the new arrival is "on the run" the patron will attach tougher conditions, such as more help in farming, as the price of protection. A number of ex-combatants have testified that they first became vulnerable to militia recruitment after having absconded from local court cases.[41]

Measuring 'woman damage': data and identification strategy

Our study draws on court level data, and randomised household data collected in 178 Mende-speaking villages around the Gola Forest. We use these data to find out about patterns and classes of cases appearing before local courts and in ADR. Local courts ceased to function in the war and many records were lost in the chaos. Court personnel (and sometimes court buildings) were targeted by the rebel RUF, because the movement had its own system of justice, based on the populist precepts of the Green Book of Col. Gaddafi.[42] Local courts administering customary law were revived with assistance from the British aid programme after the war, and began to function from September 2001. After regime change resulting from the 2007 presidential and parliamentary elections most, if not all, court chairmen were replaced. Court clerks - the chiefdom civil servants who run the administration of justice, and who are often highly knowledgeable about custom - have also since been rotated. As a result, many court records may have

41 Richards, 'To fight or to farm?", pp. 577-80.
42 Smith et al. *Conflict mapping.*

been returned to the provincial secretariat, or still remain in the possession of departing chairmen loyal to the previous regime and are currently inaccessible.[43]

This posed a problem for our study, as one of our working methods was to go through case books with the court clerk explaining each case and its context. Therefore we sought additional sources of information. This included asking village panels about sources of conflicts, and patterns of resolution, including recourse to ADR, and surveying household heads about their experiences with the judicial system – formal and informal.

Our analysis is thus based on village and household survey data, as well as on two complementary if rather limited sets of court records. We tried to collect characteristics of all cases brought to court in nine chiefdoms bordering and adjacent to the Gola forest for the periods covered by extant records. These data cover all cases we could retrieve for the period 2000-2010, but there were only a few cases available before 2004. The data form a monthly panel by which we can analyse variation in 'woman damage' cases through time. In addition, we used court data from a survey commissioned by the World Bank in 2006-7 and available on-line.[44] This survey extended the range of our analysis to 26 chiefdoms across Sierra Leone (albeit for a smaller time frame), allowing us to probe spatial variation in 'woman damage' for a sample of 363 cases. This spatial data confirmed that 'woman damage' cases are especially numerous in the Gola Forest region.

43 In 2006 one of us (PR) commissioned a preliminary survey of post-war records from three local courts (Kakuwa, Valunia and Dama chiefdoms) for the period 2001-2006. See Jean-Pierre Chauveau and Paul Richards, 'West African insurgencies in comparative perspective: Cote d'Ivoire and Sierra Leone compared', *Journal of Agrarian Change* 8(4), (2008), pp. 515-552. Seemingly, much of the source material for this survey is no longer available in the courts themselves.
44 This study, the Local Courts Record Analysis Survey in Sierra Leone 2007 was carried out by Braima Koroma of Njala University, under the Justice Sector Development Program (World Bank). For further information see http://www.britishcouncil.org/jsdp.htm.

Turning to our village and household data, we implemented a large survey of 2239 households in 178 villages, in seven chiefdoms around the forest, in the first half of 2010.

We asked questions about local disputes and modes of dispute settlement over the 2000-2010 period and collected data on 3202 cases for that period. We also organised focus groups and asked village stakeholders (typically including the town chief and deputy chief [speaker]) to list the most important conflicts in the village during the 2000-2010 period. In addition, we use land data from a Chiefdom Survey carried out in 2009.[45]

Four Tables in the Appendix summarize our data. Table A1 provides a typology of the civil and criminal cases recorded at the court, village and household level. The most frequent types of civil cases handled in local courts are those over business transactions (typically disputes over trade in agricultural produce – 41% of all cases). 'woman damage' cases (29%) are second in importance, and bad debts (24%) third. These data constitute a national picture, as represented by 26 chiefdoms in the amalgamated data set. For the household and village survey data sets covering the circum-Gola region we document that 'woman damage' cases are the most the most important form of local conflict (28% of the cases), followed by land and debt cases.[46]

The predominance of the village (informal) level for settling certain disputes should be stressed. Table A2 in the Appendix shows the level of arbitration of all cases in our household survey. Note how the type of dispute matters. While the great majority of land cases are settled informally, a large proportion of the business cases is brought to court (hence the discrepancies in percentages across

45 Unpublished survey carried out for the Ministry of Agriculture and Food Security of the Government of Sierra Leone in cooperation with the Food and Agriculture Organization of the United Nations, 2009.
46 Abusive language to an elder (cf. "sauce palaver", Winterbottom, *An account*, p. 128) and breaking bye-laws are the most important criminal cases.

columns). Overall, however, the vast majority of these case are settled in the village, mediated by family members, elders and village chiefs, and only 4 % of all cases were settled in the chiefdom local court. From our data it appears that the village chief is a key actor in local arbitration (settling 40% of all cases, and 45% of all 'woman damage' cases). It is important to stress that 'woman damage' rises in importance as we drop from the formal level of local courts to the ADR level. This is not a phenomenon limited to only a few high-profile cases at the chiefdom level, but is a basic element in the fabric of local conflict found throughout the villages of the Gola Forest region.

Part of the settlement includes levying fines. Our data suggest there is substantial variation in fines (Table A3). In local courts, a part of the fine is paid to the court itself, on average Le. 20000 (c. US$5), though this varies from Zero to Le. 355000 (c. US$89). Fines to plaintiffs reflect the seriousness of the offence and can reach up to Le. 721000 (c. US$180). The (unweighted) average level of fine for all offences is Le. 86000 (c. US$22). People found guilty of 'woman damage' pay an average fine of Le. 120000 (c. US$30), 40% higher than the average for all offences, and a steep sum given that average non-skilled earnings in rural Sierra Leone amount to about US$1.25 per day. At the village level, 'woman damage' fines seem also to vary with respect to the social relationship between the accuser and the accused. According to Table A3, strangers within the village (Mende: *hota*) pay more than citizens (Mende: *tali*), and the highest rates are paid by accused persons from outside the village.[47]

47 Some accusations also involve members of the same family group. This requires further work, since it is broadly hypothesis that 'woman damage' cases will involve plaintiffs with higher social status and defendants with lower. But it is worth noting that variation in social status occurs at an intra as well as inter-lineage level. It is conventional not to mention slave origins or client status, so underclass elements may simply appear "members of the family" to the outsider.

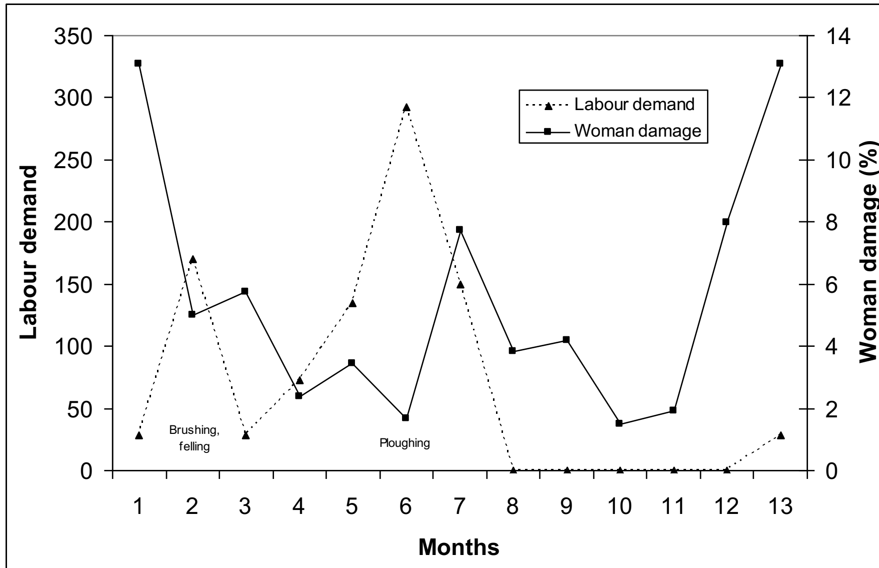

Figure 1: The number of woman damage cases and upland farm labour demand for brushing and "ploughing"

There is both regional and seasonal variation in 'woman damage' cases. 'woman damage' cases take up the largest share of the case load in Kailahun and Pujehun Districts (Table A4). These are the districts bordering Liberia, north and south of the Gola Forest, from where the war was launched, and where (as noted earlier) up to half rural population in some chiefdoms had slave status at emancipation in 1928. Figure 1 summarizes the case load of courts by month.

A clear seasonal pattern emerges – woman damage accusations are most predominant in December/January period and then again in July. These spikes in "women damage" cases match or precede the months in which demand for (male) labour on upland rice farms peaks. During January-March, male labour is in peak

demand for brushing and felling of new upland farms. Male labour demand for rice "ploughing" (i.e. planting) peaks in June-July.[48]

To test our main hypotheses about the association between woman damage allegations and demand for labour, we use our chiefdom, village and individual level data, as summarized in Table 2, and adopt a two-pronged identification strategy, testing for the spatial and time relationship between demand for agricultural labour and woman damage cases. That is, we analyse: (*i*) the pattern of woman damage convictions over space, and see if more people are convicted in regions where demand for cheap farm labour is greatest, and (*ii*) the pattern of woman damage cases over time, and see whether this pattern matches demand for male labour in agriculture, as dictated by the agricultural calendar.

48 The data on peaks in labour demand rest on detailed work undertaken on 98 upland rice farms in the Mende-speaking village of Mogbuama in central Sierra Leone in 1983 (Richards, *Coping with hunger*, ch. 4). It is an obvious weakness of the present study that we have no figures for current farm labour inputs for villages in the Gola region, and hope to remedy this in future work. Mogbuama has a lot of low-lying moisture retentive soil, and the "ploughing" peak is 2-3 weeks earlier than on the free-draining soils of the relatively hilly Gola Forest region. This perhaps explains why the peak for woman damage (Fig 1) appears to follow by a week or two the ploughing labour peak.

Variable	Obs	Mean	Std. Dev.	Min	Max
Panel A Chiefdom level					
Relative number of woman damage to total court cases	26	0.35	0.32	0	1
Upland area farmed >30% of total chiefdom	27	0.48	0.51	0	1
Cash crop area farmed >30% of total chiefdom	27	0.41	0.50	0	1
Panel B Village level					
Number of woman damage cases	161	0.52	0.33	0	1
Upland area farmed to total farm land	146	0.39	0.20	0	0.83
Plantation area farmed to total farm land	146	0.39	0.28	0	1
Swamp area farmed to total farm land	146	0.23	0.18	0	1
Village population 2010	174	386.84	488.36	10	3000
Males to land ratio	163	0.55	1.01	0	8.57
High prices in 2009	165	0.63	0.48	0	1
Fraction polygamous households	145	0.22	0.16	0	1
Panel C Individual level					
Accuser of woman damage	346				
Accused of woman damage	555				
Respondent is male	901	0.48	0.50	0	1
Respondent age	901	22.69	18.91	0	118
Respondent age^2	901	872.43	1300.93	0	13924
Respondent is literate	901	0.33	0.47	0	1
Upland farmed (acres)	901	2.01	2.56	0	25
Plantation farmed (acres)	901	7.38	8.61	0	282
Swamp farmed (acres)	901	0.99	1.34	0	10
Respondent is married	901	0.14	0.34	0	1
Number of wives	901	0.18	0.50	0	6
Non agricultural income (log)	901	12.12	1.42	0.69	21.42
Number of conflicts in household	901	1.29	1.36	0	8

Table 2: Descriptive Characteristics

Source*:* Courts Survey 2010,World Bank Courts Survey 2007, MAFFS/FAO Chiefdom Survey 2009, Village Survey 2010, Household Survey 2010

The Appendix spells out the details of our identification strategy. The core consists of two types of models. First, we estimate the impact of labour demand on woman damage cases, using cross-section data collected in 26 Chiefdom courts and in 178 villages. The latter sample includes both court data and information on informal dispute settlement. Second, we use panel data on court cases in the nine chiefdoms. Monthly data are available for the period 2004-2010, and we aim to explore whether there is a correlation between woman damage cases and demand for upland agricultural labour (as dictated by the agricultural calendar). We pool data for the period 2004-2010 and sort them by month (but our regression results are unaffected if we include annual dummies to pick up year effects).

Finally, and as an extra analysis for robustness, we also probe the characteristics of 'woman damage' accusers and accused, to explore whether these characteristics match anthropological evidence about local grievances discussed above.

Empirical results

Our data show a considerable amount of variation in agricultural production and polygyny, labour demand and 'woman damage'. In this section we investigate the pattern of 'woman damage' cases across space and time.

'Woman Damage' in local courts

Table 3 summarizes our results[49] for our two sets of court data. Across all columns we control for district fixed effects, which capture all relevant variables that are invariant across communities in the same district. Column (1) is a simple ordinary least squares (OLS) model based on the cross-chiefdom data (for 23

---

49. By estimating equations (1) and (2) detailed in the technical notes in the Appendix.

chiefdoms) provided by the World Bank. Columns (2) and (3) present outcomes of monthly panel models, based on the data collected in 9 courts. The difference between columns (2) and (3) is that in the latter model we include both a dummy for upland farming, as well as a measure of next month's labour demand.

	(1)	(1)	(2)
Dependent variable:	percentage woman damage cases	percentage woman damage cases	percentage woman damage cases
	ols	tobit	tobit
Upland area farmed >30% of total chiefdom farm land	0.419**	.	0.827*
	(0.188)		(0.429)
Cash crop area farmed >30% of total chiefdom farm land	0.113		-0.117
	(0.252)		(0.630)
Next month's labour demand		0.209*	0.241*
		(0.124)	(0.139)
District FE	yes	yes	yes
Constant	-0.0426	-0.241**	-0.580
	(0.227)	(0.105)	(0.643)
N	26	200	200

Standard errors in parentheses, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Woman Damage Across Chiefdoms and Time (Court data)

The results support the hypothesis that 'woman damage' is associated with demand for male labour. The frequency of 'woman damage' cases systematically varies with the amount of upland farm land cultivated in a chiefdom (columns 1 and 3, for evidence on 26 and 9 chiefdoms, respectively) as well as with the seasonal demand for labour (columns 2 and 3) – Chiefdoms with more than 30% of their area used for upland farming have significantly more 'woman damage' cases and, similarly, the number of 'woman damage' cases in months preceding peak labour demand is higher than in other months. Interestingly, our data suggest a sort of 'threshold effect.' That is a minimum area of upland farmland is necessary for a positive correlation between 'woman damage' and upland farming to eventuate — simply inserting a continuous variable indicating the percentage of upland farming yields a positive coefficient, but one that is not significantly different from zero. We find that our result is rather robust to varying the level of the upland farmland threshold (e.g., to 20% or 40% of the chiefdom).

In general, it requires a leap of faith to jump from correlations to causal inference. Our assumption that demand for labour translates into more 'woman damage' cases might be countered with the view that a supply of cheap labour (via the judicial system, from commutation of fines) is used, opportunistically, to enlarge the area of upland farming.[50] In other words, causality might actually run in the opposite direction to the one we here suppose. However, this seems unlikely, since the double-peaked pattern of seasonal labour demand on upland rice farms is exogenous to the workings of the judicial system. Conceivably, a riotous Christmas might lead to a large spike in adultery cases, paid for by work opportunities in the brushing season that immediately follows, but it would be hard to explain why there was a similar spike of 'woman damage' accusations in the planting season, at a time of year when food, energy and leisure opportunities

50 Patrons or relatives sometimes help the accused by what is known as "buying the case" (covering the fine). Some then recoup their losses by accepting help on their farms in lieu of repayment of loans.

are in notoriously short supply for both men and women. The fact that the spikes in 'woman damage' cases track a double peak in demand for the labour of young men on upland rice farms seemingly helps confirm the hypothesis that labour demand is the driver of the fluctuation in court activity.

'Woman damage' at village level

We now turn to the household and survey data and examine the correlation between 'woman damage' and various village characteristics. The dependent variable across all models is the percentage of households in the village accused of at least one case of 'woman damage'.[51] Across all specifications we control for chiefdom fixed effects (Gaura, Koya, etc.), capturing invariant variables across communities within the same chiefdom.

51 Because of multi-collinearity we cannot include all village variables simultaneously (for example, there is a mechanical, negative association between the percentage of farmland, plantation land and swamp land).

Dependent variable: percentage of households with at least one woman damage case 2007-2010					
	(1)	(2)	(3)	(4)	(5)
Percentage	0.342**			0.430**	0.334**
upland farmland	(0.152)			(0.167)	(0.152)
Percentage		-0.276**			
plantation land		(0.118)			
Percentage			0.146		
swamp farmland			(0.175)		
Village population				-0.000234**	
				(0.0000900)	
Fraction polygamous				0.204*	
Households				(0.124)	
Males to land ratio					-0.0567*
					(0.0311)
Very high yields					0.108*
in 2009					(0.0631)
Gaura	0.217**	0.260**	0.257**	0.290	0.285**
	(0.104)	(0.104)	(0.108)	(0.409)	(0.109)
Koya	0.131	0.186	0.159	0.156	0.162
	(0.113)	(0.115)	(0.120)	(0.114)	(0.117)
Makpele	0.0711	0.0896	0.126	0.0324	0.121
	(0.101)	(0.0992)	(0.100)	(0.105)	(0.104)
Malema	0.0976	0.155	0.124	0.0963	0.194*
	(0.0950)	(0.0984)	(0.103)	(0.0946)	(0.103)
Nomo	-0.0168	0.0214	0.0357	-0.0425	0.0748
	(0.114)	(0.112)	(0.116)	(0.114)	(0.121)
Tunkia	0.0222	0.0683	0.0525	-0.0104	0.0462
	(0.118)	(0.119)	(0.123)	(0.118)	(0.131)
_cons	0.323***	0.524***	0.391***	0.186	0.110
	(0.0891)	(0.0789)	(0.0955)	(0.153)	(0.148)
N	130	130	130	111	115
adj. R^2	0.037	0.040	0.002	0.077	0.115

Standard errors in parentheses, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Explaining the incidence of woman damage (village data)

Our estimation results corroborate our earlier findings. Specifically, as above, 'woman damage' cases are more prevalent in villages with a greater percentage of upland rice farmland – specifically, a 10% increase in the share of upland farmland results in 3,4% percentage points increase in 'woman damage' cases. The same is not true for swamp land, where a crop tends to be owned individually, where labour peaks fall differently, and where farming activities are less implicated in forging household cohesion and reproduction of family groups (see above).

In addition, we find that 'woman damage' cases are more frequent in small villages; these are typically remote places, at the forest frontier, where male labour demand for farm brushing and (especially) felling is greatest. These are also villages where total "free" labour supply is highly limited, sometimes to the point where is no labour market at all in peak seasons.[52] All labour is tied up by own land work or contracted via membership in peer-managed rotational labour teams, and elders resort to the judicial system to break into this "locked-down" labour source.[53] Pursuing action for 'woman damage' is in effect a means for an elder to force a young man to abandon work on his own farm or give up his turn in a pre-contracted labour group, in abeyance of a fine.[54]

Interestingly, and also consistent with our hypothesis, we find that large yields on upland rice farms are associated with more frequent 'woman damage' cases, perhaps because the extra labour thereby secured ensures more timely brushing and planting in relation to irregularly advancing rains. Lack of timely burning or planting is a major factor in poor yields.[55] 'woman damage' cases are also more

52 Compare Richards, *Coping with Hunger*, pp. 70-74
53 Richards, Coping with Hunger, ch 5.
54 In future work we plan to follow payment of fines in kind from 'woman damage' cases to see if they lead directly back to farms.
55 Richards, *Coping with hunger*, ch 4.

common in areas where male labour is more scarce and in areas where higher levels of polygyny occur (as proxied by the percentage of households with more than one wife).

Finally, an important negative result is presented in column (2). There are fewer cases for 'woman damage' where there is a greater percentage of plantation land. Plantations require regular maintenance, including brushing in the early dry season. There is much coffee and cocoa plantation land around the Gola Forest - abandoned and overgrown in the war - that is only with difficulty being renovated, due to labour shortage. Lack of significant positive association between 'woman damage' and plantations would be enough to refute the idea that 'woman damage' is a correlate of agrarian labour shortage in general. All the specific associations are, in fact, between 'woman damage' and household upland rice plantations. The woman's dereliction is a threat to the household group – and specifically to the large polygynous household group. Conversely, trapping her paramour to work as a temporary son-in-law strengthens the large polygynous household. The issue, as Crosby rightly surmised, is the inequality implied between those men who can and cannot command large polygynous households. However, a negative correlation between 'woman damage' and area devoted to cash-crop plantations, as in Table 4, might say something new – that traditional sanctions are less important when the cash nexus intervenes. This is a lead we intend to follow further in future work.

'Woman damage' at individual level

Our final set of evidence consists of an analysis of our household survey data. These data allows us to identify the characteristics of both 'woman damage' accusers and individuals accused. The anthropological data (from Crosby, Little,

and Bledsoe) implies that the accusers will be older, wealthier, polygynously married men, and that the accused will be younger, poorer and perhaps unmarried men. Our sample contains information about 349 accusers and 555 accused individuals. We estimate a series of (logit) models to see which individual variables differentiate between the two groups. Our main results hold up when we include village fixed effects, controlling for (unobserved) village level variables.

Dependent variable: accuser or accused of woman damage case 2007-2010				
	(1)	(2)	(3)	(4)
	accuser	accuser	accused	accused
	logit	logit	logit	logit
Age at accusation	0.0260***	0.0375***	-0.0192***	-0.0277***
	(0.00701)	(0.00938)	(0.00678)	(0.00907)
Respondent is literate	0.0965	0.231	-0.204	-0.296
	(0.175)	(0.236)	(0.171)	(0.230)
Upland farmed (acres)	0.0739*	0.113**	-0.0769**	-0.138**
	(0.0393)	(0.0526)	(0.0391)	(0.0536)
Plantation farmed (acres)	-0.0129	-0.00865	0.0150	0.0131
	(0.0113)	(0.0115)	(0.0116)	(0.0132)
Swamp farmed (acres)	0.141*	0.142	-0.123	-0.104
	(0.0825)	(0.113)	(0.0811)	(0.113)
Number of wives	0.277*	0.534**	-0.306*	-0.651***
	(0.167)	(0.217)	(0.168)	(0.219)
Non agriculture income (log)	0.104	0.110	-0.0777	-0.0677
	(0.0641)	(0.0851)	(0.0623)	(0.0840)
Number of conflicts	0.0693	0.0160	-0.0373	0.0113
household is involved in	(0.0623)	(0.0832)	(0.0613)	(0.0825)
Village FE	no	yes	no	yes
Constant	-3.324***	-3.766**	2.475***	1.614
	(0.854)	(1.651)	(0.822)	(1.643)
N	641	556	643	551
adj. R^2	0.06	0.17	0.05	0.16

Standard errors in parentheses, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Profile of woman damage accuser and accused (individual data)

Interestingly, while both accusers and accused appear rather similar across a few dimensions (literacy, income, marital status, and number of conflicts in the households), there are crucial differences between the two groups consistent with our overall hypothesis. First, while the upland farm area enters positively for

accusers (implying large demand for male labour), this is not the case in the models identifying the accused. Indeed, in the models for the accused (columns (3) and (4)), upland farm area enters negatively. The smaller their upland farm the more likely they are to be accused.[56] This finding seemingly underscores the fragile and marginal position of these individuals in local society (cf. Footnote 28). This is consistent with the observation that the literacy variable enters with opposite signs for the accusers and accused, suggesting that those unable to read or write are more likely to be charged with 'woman damage' accusations (but this difference is not significant at conventional levels).

Second, we find that accusers tend to be older than the accused. This is consistent with the gerontocracy assumption behind our basic hypothesis. Third, we find that men with multiple wives are more likely to be accusers. This result is consistent with the "honey trap" perspective offered by Crosby, Little and Bledsoe, in which polygamously married men use their wives as bait to gain access to cheap labour from fellow villagers. However, and somewhat unexpectedly, we observe that marital status enters significantly and with a positive sign for both accusers and those accused. This would indicate that the "honey trap" at times captures some married men as well as marginal unmarried youth.[57]

56 Chauveau and Richards, 'West African insurgencies', note that only four per cent of men accused in their sample of woman damage cases from three courts in central and eastern Sierra Leone were acquitted. Marginality is apparent in the fact that (on these percentages) to be accused is (in effect) to be guilty.

57 This might seem an anomalous finding. To be clear, we should emphasise that while, as in any society, some married men and women will engage in sexual relationships outside marriage, under the legal regime applicable in Mende village society some married men may also be successfully accused of woman damage, whether guilty as charged or not. Here the variation in status between accuser and accused is the relevant social fact.

Discussion and conclusion: peasant grievance feeds conflict?

Our data show that 'woman damage' remains a major component of social conflict at all levels of the rural social system, from chiefdom to village, in the Gola Forest region where the Sierra Leone civil war first took root. Furthermore, we have shown that an initial hypothesis – propounded by Crosby – linking 'woman damage' to high rates of polygyny and labour demand on household upland rice farms, receives substantial statistical support from analysis of both recent court data and information derived from a large random sample of rural households. Our study backs up claims of agrarian grievances reported by youthful underclass elements from the Gola Forest region when earlier asked about their reasons for supporting the rebellion.

We should point out, however, that the mechanism of agrarian inequality we isolate in this paper is specific to polygyny and upland rice farming. We find no evidence that 'woman damage' is a general mechanism for agricultural labour exploitation. Indeed, our findings of no significant relationship between 'woman damage' and swamp rice cultivation and of a negative relationship between 'woman damage' cases and plantation size (as a proxy for labour demands in cash crop production) underline the specificity of this type of exploitation. This might in turn be taken to support a conclusion that grievances formed through 'woman damage' accusations will eventually be mitigated via broader participation in crop markets and the further spread into villages of cash-based agrarian production.

In this regard, we hold the view that, in principle, the problem may be self-correcting over time, with further spread of the market economy. But more detailed work on competing trends and mechanisms of land and labour appropriation will be needed before it can be confidently concluded that the old Leviathan of a ranked-lineage society – the reproduction of inequality through

polygyny – is extinct. In this regard, technical strategies (e.g. minimum tillage) might be needed to mitigate labour bottlenecks on peasant upland rice farms. It may also be desirable to bring rural labour, property and inheritance customs into conformity with national law, as has happened in Liberia.[58]

Finally, we return to the two basic models of explanation mentioned at the outset of this paper – greed-not-grievance and peasant insurgency. All successful or long-lasting insurgencies require a material resource base, so proponents of the greed-not-grievance hypothesis at times struggle to show that they are not just measuring the tendency for insurgency and resources to be correlated (that, in effect, war necessitates greed).

The peasant insurgency model follows a different line of causal reasoning. Here, it is hypothesised that the recurrent marginalization and humiliation of exploited fractions of backward agrarian society repeatedly erupts into an expressive violence that seeks – either physically or symbolically – to challenge and invert an oppressive social order. In Ranajit Guha's work the model is tested qualitatively – by the accumulation of what he terms (echoing Durkheim) the elementary [or generalizable] aspects of more than one hundred documented peasant insurgencies in South Asia.[59] There is much less historical material on African agrarian uprisings, but enough is known to attest that these focus on reversing the privileges of slave holders rather than land owners. In other words, in a land surplus continent, the tendency has been for peasant insurrection to assume the form of the slave revolt.[60]

---

58 For legal attempts to limit 'woman damage' in Liberia See *Act to Govern the Devolution of Estates and Establish the Rights of Inheritance for Spouses of Both Statutory and Customary Marriages* approved by the House of Representatives October 7th, 2003. Monrovia, Ministry of Foreign Affairs, Interim Government of National Unity, Republic of Liberia.
59 Guha, 'Elementary aspects of peasant insurgency'
60 For a late 18th century instance for Sierra Leone see Bruce Mouser, 'Rebellion, marronage,and *jihad* strategies of resistance to slavery on the Sierra Leone coast, c. 1783-1796', *Journal of African History* 48, (2007), pp. 27-44.

What we have shown in this paper is that deeply embedded within the institution of village marriage in the zone from which the recent civil war in Sierra Leone spread there is a functional mechanism of oppression resembling the known drivers of other forms of slave and peasant revolt. Anthropological theory has long pointed towards an inherent tension between elders and cadets in ranked lineage society, centred on controls exercised by male elders over marriage and social reproduction.[61] Our paper has set out to test aspects of that theory, using a mix of anthropological and econometric analysis.

It has been shown that 'woman damage' remains a significant and widespread class of social dispute at all levels of rural society in the Gola Forest region of eastern and southern Sierra Leone. Statistically significant associations between 'woman damage', rates of polygyny, and variations in labour demand on household upland rice farms have been traced. Findings concerning social asymmetry between accuser and accused in 'woman damage' cases are consistent with the claim that elders seek to control the labour and reproductive opportunities of cadets. A *prima facie* case has thus been established to suggest that agrarian class tensions may have influenced recruitment to war.

What is now needed is a better, more explicit model of how this mechanism of peasant inversion was actually engaged in the social-political circumstances of the Sierra Leone interior in the 1990s. The leaders of the insurgencies described by Guha are often rather anonymous figures. The only documentary sources are typically hostile to the peasant insurgents, and they pay little attention to the biography of the enemy. Ironically, the same fate was reserved for Foday Sankoh,

61 On a model for marriage regulation and incipient class tensions between elders and youth in African mercantile society linked to the slave trade see Georges Dupre and Pierre-Philippe Rey, 'Reflections on a theory of the history of exchange', *Economy and Society* 2(2), (1973), pp. 131-63.

leader of the RUF, who died in custody before he could state his case to the Special Court for War Crimes in Sierra Leone.

But it is clear enough from Guha's analysis that leaders of Indian peasant insurgencies were often charismatic figures who communicated with their movements through quasi-religious means. Sankoh fitted this type. He was the odd-man-out in the original leadership of the RUF – otherwise a Libyan-inspired student revolutionary group.[62] Much older, with rather limited education, and from a rural background, Sankoh was evidently a man of the people, universally known to his movement as *papei* ("father"). What seems to have happened is that as the student leadership dropped away in the first skirmishes and the intake of disgruntled young peasants increased, Sankoh (now the undisputed leader) adapted his style, and the movement's aims, to the needs and concerns of his new followers.[63]

If the RUF war began as a revolt of young intellectuals it soon took on the features of a classic peasant revolt, aimed not at conquering the commanding heights of the state but at smashing and overturning an agrarian world in which the landholders had over-taxed young labourers, thus explaining the horrific intensity

62 Ibrahim Abdullah, 'Bush path to destruction: the origin and character of the Revolutionary United Front (RUF/SL)', *Africa Development* 22(3&4), (1997), pp. 45-76.

63 For the agrarian "turn" in the RUF see Krijn Peters, *War and the Crisis of Youth in Sierra Leone.* (The International African Library No 41, Cambridge University Press, London, 2011). According to the survey of Humphrey and Weinstein, *What the fighters say*, farmers (about 20%) were second to students (42%) as recruits to the RUF, but it should be added that most of the students will have come from isolated rural schools, where they will have also been part of the farm labour force (including working unpaid stints on the school teacher's farm). Humphreys and Weinstein note that a disproportionate number of the RUF intake had lost their mothers, which implies many may have been foster children. Fostering among the Mende is often draconian. See Caroline Bledsoe, 'No success without struggle – social mobility and hardship for foster children in Sierra Leone', *Man* (NS), 25(1), (1990), pp. 70-88. In short, RUF recruitment was weighted towards the rural youth underclass, consistent with our hypothesis of intra-peasant grievance.

of the violence visited upon rural communities the RUF had originally set out to redeem. This, in broad outline, is the kind of explanatory vehicle into which we envisage fitting the mechanism of oppression and revolt demonstrated in this paper.

Appendix: Data and Details about Identification Strategy

Table A1: Types of Cases

	Court data		Village data		Household data	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Panel A Civil cases						
Land	8	2.20%	68	16.79%	676	21.11%
Woman damage	105	28.93%	117	28.89%	895	27.95%
Debt Money / Credit	88	24.24%	36	8.89%	566	17.68%
Business transactions (i.e. debt in kind)	148	40.77%	49	12.10%	144	4.50%
Religion					49	1.53%
Witchcraft					79	2.47%
Labour			49	12.10%	363	11.34%
Alcohol					44	1.37%
Bush fire					99	3.09%
Gambling					41	1.28%
Theft	14	3.86%	76	18.77%	215	6.71%
Other			10	2.47%	31	0.97%
TOTAL	363	100%	395	100%	3202	100%
Panel B Criminal cases						
Abusive language / slander	99	32.46%	Na		1028	44.52%
Breaking bylaw (not doing community work, disobeying chief, failure to pay tax, ..)	94	30.82%	Na		1086	47.03%
Damage to property	11	3.61%	Na			
Physical abuse	45	14.75%	Na		136	5.89%
Contempt of court	11	3.61%	Na			
Other, specify	45	14.75%	Na		59	2.56%
TOTAL	305	100%	Na		2309	100%

Criminal cases not covered in village survey

Source: Courts Survey 2010,World Bank Courts Survey 2007,, Village Survey 2010, Household Survey 2010

Table A2: Level of Arbitration Civil Cases

	All cases		Woman damage cases	
	Freq.	Percent	Freq.	Percent
1. Amongst ourselves	483	15.37%	90	10.19%
2. Family elders	526	16.74%	124	14.04%
3. Village elders	311	9.90%	106	12.00%
4. Religious leader	42	1.34%	7	0.79%
5. Village / town chief	1254	39.91%	397	44.96%
6. Section chief	248	7.89%	78	8.83%
7. Paramount chief	110	3.50%	30	3.40%
8. Chiefdom court	118	3.76%	44	4.98%
9. Magistrate court	22	0.70%	4	0.45%
10.Other, specify	28	0.89%	3	0.34%
TOTAL	3142	100%	883	100%

Source: Village Survey 2010, Household Survey 2010

Table A3: Fines (in Leones)

Variable	Obs	Mean	Std. Dev.	Min	Max
Panel A Court data					
All civil cases					
- paid to court	382	19582.46	27924.4	0	355000
- paid to plaintiff	338	86248.52	110489.7	0	721000
Woman damage cases					
- paid to court	78	19198.72	15108.98	2.000	100000
- paid to plaintiff	60	120066.7	101097.1	5.000	560000
Panel B Household data					
All civil cases	2603	52545.56	109210.1	0	2000000
All civil cases (fine > 0 Le)	1822	75069.2	123896.5	15	2000000
All woman damage cases	797	62272.42	106085.5	0	1000000
Woman damage case with					
- Household member	58	39034.48	96710.27	0	600.000
- Extended family member	102	68049.41	149127.6	0	1000000
- Same village (not stranger)	379	59612.14	93432.8	0	1000000
- Stranger in same village	123	62536.59	91176.11	0	400000
- Other village, same section	91	81626.37	117455.3	0	600000
- Other section, same chiefdom	18	36666.67	29555.53	0	100000
- Other chiefdom	14	69862.5	91954.52	75	300000

Source: Courts Survey 2010, Household Survey 2010 (exchange rate at the time of survey c. Le 3500/$US 1.00)

Table A4: Cases by district

	All cases		Woman damage cases		
District	**Freq.**	**Percent**	**Freq.**	**Percent**	**as a percentage of all cases in district**
Kailahun	85	14.2%	16	16%	19%
Kenema	190	31.8%	26	26%	14%
Koinadugu	29	4.9%	2	2%	7%
Pujehun	264	44.2%	52	52%	20%
Tonkolili	29	4.9%	4	4%	14%
TOTAL	597	100%	100	100%	100%

Source: Courts Survey 2010, World Bank Courts Survey 2007

Technical specification of our identification strategy:

As indicated in the main text we have estimated a series of models.

First, we use a cross-section sample of data from 26 chiefdoms for the period 2006-7 and regress the number of woman damage cases on our proxy for the demand for agricultural labour:

(1) $$WD_i = \alpha_i + \beta_1 RFA_i + \beta_2 C_i + \varepsilon_i,$$

where WD_i is the relative number of woman damage cases to total cases for court i (i = 1,…,26), RFA_i is the percentage upland farmland to total land in the court area,[64] C_i is a vector of Chiefdom controls, and ε_i is a random error term.

Second, we estimate a simple panel model for the nine chiefdoms for which we have monthly data (period 2004-2010), and zoom in on the agricultural calendar:

(2) $$WD_{it} = \alpha_i + \beta_0 L_{t+1} + \beta_1 RFA_i + \beta_2 C_i + \varepsilon_{it},$$

where WD_{it} now refers to the relative number of woman damage cases to total civil cases in Chiefdom i (i = 1,…,9) in month t (t = 1,…,12). We pool data for the period 2004-2010 and sort them by month (the results are unaffected if we include annual dummies to pick up year effects). In (2), L_{t-+1} is (next month's) agricultural labour demand in month t+1, to capture the idea that large landowners anticipate next month' s labour demand and seek to secure access to labour. For details on our measure of labour demand, refer to explanatory footnote 40.

Third, we re-estimate equation (1) for our sample of 178 villages, and analyse how the total number of 'woman damage' cases (i.e. handled in court or otherwise) varies with key village, household and individual characteristics.

---

64 Population pressure in the area around the Gola Forest is relatively low, so there may still be some unused land (i.e. land not part of the rotational cycle) in some communities. Forest reservation has accounted for any large areas of unused land, so areas still accessible to villagers are likely only to be small. We implicitly assume that the amount of unused land is not correlated with the number of woman damage cases. Note that this potential concern about endogeneity of the land use variable is attenuated in the panel regressions where we consider communities over time.

6

CHAPTER 6

Discussion and conclusion

CHAPTER 6

Discussion and Conclusion

Chapter 1 of this thesis included some research questions. The general question was "How do external actors and rural communities cope with conflicts of institutional values generated in public health provision and agricultural development?". This was divided into a series of sub-questions. The first set of sub-questions concerned the spread of EVD spread in rural Sierra Leone, and how the epidemic was controlled through case handling (ETC and CCC). These sub-questions were addressed through the specific examples discussed in chapters 2-4. A second set of sub-questions concerned the impact of the spread of markets, mining and money economy on a rural rice-farming system based on marriage and labour exchange. These sub-questions were answered in chapter 5, through an analysis of local court cases for "woman damage". Using a multiple regression model, it was shown these cases were not based on sexual jealousy but on attempts to control "free riding" on the marriage-based system of labour exchanges. It was argued that this "clash of institutions" contributed to the violence of the civil war.

This final chapter will now consider some of the general implications of these findings. Two points will be made. The first is that institutional conflicts need to be properly identified. The value of the Douglas framework for mapping areas of institutional conflict will be assessed against the findings documented in chapters 2-5. Second, this chapter returns to theories of institutions outlined in chapter 1 and suggests that institutional problems in social and economic development can be handled through institutional hybridity. Examples of institutional hybridity include the Ebola Community Care Centres and the work of chiefs in "bridging" between government and family requirements over disputed issues discussed in

chapter 4. The thesis concludes by updating the story told in chapter 5. The post-war outcome in regard to "free-riding" village youth was unexpected. Ex-combatants returned to the villages as motor-cycle taxi riders, and working with female traders, made new and effective links between family and market values.

Mapping institutions – the Douglas scheme and the case-study material

To understand institutional problems in development, it has been argued, a better "map" of institutions is needed, to show where the fault lines of conflict lie. In this thesis this has been done through applying the fourfold scheme of institutional ordering proposed by Mary Douglas (Douglas 1999).

I will now summarize and discuss what the case studies in chapters 2 to 5 show about the application of this fourfold scheme to the two cases. I plan to show that all four forms of institutional ordering have explanatory value, starting with enclaves.

The *enclave* in rural Sierra Leone is formed from patrilineal land holding groups linked by marriage. Since a man or woman cannot marry within the patrilineal group families are forced to look for marriage partners in neighbouring lineages. Alliances between land holding groups form the foundation of village social life. Marriage is a lifelong commitment of mutual support among the intermarried families, beginning with bride service and including support in life crises such as sickness and death.

Case materials examined in chapters 4 and 5 confirm that mutual support in sickness, inter-family agricultural labour cooperation and participation in funerals are requirements for maintaining enclave social order. Village families resisted attempts to stop them caring for the sick and taking part in funerals. Some informants were explicit that to follow Ebola rules would destroy social solidarity.

Chapter 4 shows Ebola responders engaging in compromise. Local Community Care Centres allowed families to be involved in visiting and caring for the sick - *the family visits and sometimes takes some basic food the patient requests...* Reporting rates then improved, allowing Ebola cases to be identified before these became dangerously infective.

Chapter 5 shows what happened when young men familiar with life in towns or the diamond fields returned to the village and operated as "free riders" on enclave marriage. The pattern of "women" cases is shown to be linked to seasonal labour demand in upland rice farming. These cases cannot be explained in terms of (say) sexual jealousy but as an attempt to make market-oriented youth conform to the local expectation that they will work on the upland rice farms of their fathers-in-law. The chapter suggests that many of the "free riders" left the village environment rather than do bride service, and as a result ended as recruits to the rebel forces. Evidence is cited that when ex-combatants were interviewed after the war a surprisingly small number said they were motivated to join the rebels by diamonds (supposedly the main driver of the conflict) but by the possibility to marry (Humphreys and Weinstein 2008). There is a surprising addition to this story, to be told at the end of this chapter.

Hierarchy is the second of Douglas four forms of institutional ordering. Every village has a town chief and every cluster of villages has a section chief rule ruled over by a Paramount Chief (PC) of one of 147 chiefdoms into which the country is divided at the local level. Each PC is advised by a Chiefdom Council made up largely by senior members of local land-owning families. The PCs report to District Councils and eventually to the Head of State. The village enclave and chiefly hierarchy then have to reach some kind of understanding.

Chapter 4 provided some examples of how that understanding between enclave and hierarchy is achieved, in relation to the land on which the new Community Care Centres for Ebola were built. Because of the urgency of the epidemic some Paramount Chiefs tried to force the pace. Families resisted. Most were willing to give land, but required the chief to acknowledge their ownership, and stressed that no one in government could force them to give up their land. *"We are not happy about the way the land was selected or with what the Paramount Chief did. He did not explain to us anything that was happening"* (ch. 4). This illustrates the delicate balance between enclave and hierarchy achieved over many years in the Sierra Leonean countryside.

Douglas's framework recognises two other forms of institutional ordering; isolate and individualistic ordering.

Isolate ordering describes a group tied down by political or environmental constraints with limited scope to act on their own account. Often, the best strategy for those under isolate institutional ordering is to go with the flow of life.

In village life in Sierra Leone the isolates are generally called "strangers" (*hota* in Mende, distinguished from *tali* = 'town person' or 'citizen'). Sometimes the strangers are migrants. But in other cases, they belong to groups that previously lost their land rights and family histories, perhaps because they were conquered by invading warrior groups, and survived only as slaves or clients.

One will suspect that there are large groups of isolates in the Mende countryside. Census figures put the proportion at between a quarter and one third of the total population. Because they are social isolates, these people do not articulate their own story. Their origins and existence are conveyed only in

evidence others have organized. People belonging to a *sii* (a named linage) had ancestors who were once "warlords" (owners of the land, through conquest) while *hoteisia* [strangers, plural] are descendants of "warlords" on the losing side. These are persons that belong to the village but have no land rights. They speak in public only through their *hota kEE* (their "*stranger father*", or landlord).

Isolates are survivors. Survival is recognized as an art in itself. The mode of isolate organization is at times adopted more generally to survive crises that shut down the normal inter-family exchanges of enclave life. The civil war and the Ebola crisis both reminded people of the values of isolate ordering. When asked what they did in the war some villagers reply that they lived in *sokuihun*, the Mende word for "corners" (Archibald & Richards 2002). They typically use this term to describe going into an isolated section of the bush and making a farm purely for subsistence purposes and cutting off wider social contacts.

Isolate ordering is not new to local communities. Chapter 1 cited an English missionary in the 1840s who witnessed slave owners going to live with their slaves in the bush after a locust invasion because the slaves still had food. In the civil war (1991-2002) not all villagers sought refuge in displaced camps; some preferred to retreat into the bush where they revived ancient gathering techniques, such as collecting and eating of wild yam. With the knowledge of hiding and hunting they were able to protect their land and families from the rebels, and later some of the young men became the *kamajoi* (hunter militia volunteers) who helped to reduce rebel attacks in the country (Peters 2011).

A temporary adoption of isolate ordering was also used as a way of quarantining the household under Ebola, once it was realised that Ebola was spread by human contact. Some families went to their farm huts, and stayed there for several weeks, until it was clear that the infection risks had passed. Asked about alternatives to

being taken to an Ebola ETC some villagers said they would take the sick person to the farm where a volunteer would care for them in isolation, to reduce risks of further spread of infection. Some people explained this was what they used to do during smallpox epidemics.

A recent paper has described how this practice of isolate "home care" was undertaken quite widely in one village in Ribbi Chiefdom (Parker et al. 2019). This way of looking at Ebola is summed up in the Mende word for the disease, "*bondawote",* meaning "family turn away".

Isolate ordering does not draw attention to itself. But one of the merits of Douglas's institutional scheme is that it forces us to ask, "what about the isolates?".

Competitive individualism is the fourth panel of Douglas's scheme. This includes social ordering based on market values. Market integration was a problem for Ebola control in Sierra Leone. Epidemiologists have noted an association between roads and markets and high rates of Ebola infection (Fang et al. 2016), supported with some further evidence presented in Chapter 1.

Chapter 2 drew attention to how major market centres such as Moyamba Junction were often nodes for infection spread. The government tried to reduce market activity to control Ebola but was often unsuccessful. In places of the country where market integration was high, people needed to buy and sell to provide food for survival. The option of retreating into "corners" was less available after many years of market exposure. For example, the market at Moyamba Junction was closed, to try to control infection, but immediately re-opened in an unofficial location a few miles further down the road (Chapter 2). The market town,

Waterloo, 20 miles from Freetown, was a major hub for the spread of the disease back into the provinces. Eventually, the army was deployed to deal with the problem, but this caused major resentment. As predicted by data on public trust, drawn upon in chapter 2, local chiefs were often more effective in persuading people to accept the need for temporary Ebola regulations, as shown by case study material in Richards (2016).

This brings us to one of Douglas' major explanatory concerns, to understand that social conflict brought about through differences in institutional ordering can be reduced through compromise. Compromise she argues could only come about through solutions designed to accommodate different institutional perspectives (Douglas 2004). In some of her last work she associated herself with colleagues who describe this as the search for clumsy solutions (Verweij et al. 2006). She also insists that where emotional values such as national or communal identities are concerned, and where such values come into conflict, e.g. over immigration – a transaction-cost approach is unlikely to succeed. She did not live long enough to explore the consequences of this approach, but it is clear that she hoped that a "clumsy" approach offered something new to those concerned with conflict resolution (see also Verweij 2011).

Institutional hybridity – clumsy solutions

Mary Douglas' theory of institutions is good at bringing out the existence of different types of social ordering, and why institutions clash. A question then becomes obvious. How can institutional clash be reduced? Here it is perhaps helpful to return to Oliver Williamson and Douglass North.

Williamson (1981) makes clear that institutional clash has costs. Douglas (1987) thinks these cannot always be reduced to money. But it is clear from the Ebola

case that village people quickly recognised the cost of continuing normal burial practices. They wanted greater safety, but through changes that made sense to them, and not ones they were forced to accept, sometimes at the point of a gun.

Chapters 2-4 show that hierarchically organised authorities – Ministry of Health and Sanitation, Centres for Disease Control (CDC), World Health Organizations (WHO), Medecins sans Frontiers (MSF) and other international responders all thought in terms of top-down solutions to Ebola infection control.

The first medical centre built was ETC with involvement of international airlifts and military contractors. Compulsory case extractions were carried out by ambulances with sirens screaming. Cases were screened inside opaque tents sealed off from families by wire fences and guards. The emphasis was on speed, precision, efficiency and security. There was no place for expression of family care for the sick – concern, bodily contact, feeding, encouragement and the elaborate cleaning and preparation of the body at death. Chapters 3 and 4 suggest that this "clash" of hierarchical and enclave values led to an institutional stand-off.

Hierarchical thinking was also at work when government deployed the army to impose quarantine, and the law was changed to imprison those found guilty of carrying out unauthorized burials or pay a steep fine (Richards 2016). These were counter-productive moves since villagers under enclave ordering responded with civil disobedience. Sick persons were hidden from the authorities. Burials were undertaken in secret.

The consequences were severe. In particular, civil disobedience slowed down diagnosis and testing. Families were reluctant to take loved ones for a test, hoping the disease was only malaria or typhoid. This meant that patients turned up for

testing only when the disease was at an advanced state and very infectious, in the so-called “wet phase”, four to six days after the first onset of symptoms.

From October 2014 a safe burial protocol modification was made, and burial teams included a pastors or imam. Family members were now allowed to witness the event at a distance. This was termed “safe and dignified burial” (WHO 2014b). Families demanded to be trained to do the work of the burial teams because they are close relatives to the decease, and where that happened cooperation was further improved (Richards et al. 2020).

In November 2014 a poster was published advising what to do “while waiting for the ambulance” (Richards 2016). The idea of home care had been resisted vehemently by international advisers. But a compromise could not be avoided because in some places the ambulance never came. Maybe there was not even a road? So, the poster was in effect advice on how to care for an Ebola victim at home. This had been resisted by the authorities until late in the day.

The second major act of Ebola compromise was the introduction of the Community Care Centres (CCCs). Chapter 4 described in detail this “clumsy solution” to the problem of Ebola treatment. The localised CCC was a care option that allowed for the rapid identification and treatment of Ebola cases while avoiding clash of enclave values concerning how to fulfil family obligations to the sick and dead.

This was a game changer. By bringing case treatment to the local level families could again play a role in care for the sick. CCCs also treated all complaints and not just Ebola. An immediate benefit was an increase in speed of reporting. CCC were walk-in centres. Diagnosis was then done before the disease differentiated its symptoms from malaria and typhoid and Ebola patients could be isolated in the dry phase, which greatly reduced infection.

Chapter 4 provides evidence that the effectiveness of CCCs was directly related by informants to enclave values of family care for the sick, including allowing encouragement of the patients through open-sided wards open to visitors standing at a distance and the preparation and delivery of home food.

Some of the same story of institutional compromise and adjustment is apparent in the account of the ETC documented in Chapter 3. Here, the appointment of social liaison officers proved an important step in bringing families on side. The return home of the first survivors was also a major step forward in acceptance.

Thus, chapters 3 and 4 offer abundant evidence that responders and communities were quick learners about Ebola, and willing to work out compromises about issues of institutional values, once these clashes became apparent.

Conclusion – institutional hybridity from within

This brings us back to Douglas North, and the idea that institutions can evolve (North 1992). Institutional evolution needs a longer time span than the Ebola crisis in Sierra Leone. The story of the clash of institutions told in chapter 5 covers a period of several decades. Updating the story from beyond the tensions that led to civil war brings out evidence of the evolution of compromises between markets and enclave. Significantly, it shows evidence of evolution from within.

The civil war ended when war-weary rebels accepted assurances of the peace maker, Nigerian President, Olusegun Obasanjo, a former military commander, that they would be reintegrated into civil society in Sierra Leone through job training. The training offered by the Disarmament, Demobilization, and Reintegration (DDR) programme was not very effective (Archibald & Richards 2003) but ex-combatants had food, tools and cash. Some sold their tools and used

the cash as down payments on cheap Indian motorbikes, which they paid for on work-and-pay (hire purchase) contracts.

Young women were highly vulnerable to attack and sexual molestation during the rebel war. Many were displaced to camps in major provincial towns (Bo, Kenema and Makeni). They survived through trade.

When the war ended in 2002 these young female traders were keen to expand into the countryside, often with the aim of helping to rebuild their communities.

The roads were in a poor state, but NGO motorbikes penetrated to all parts in the relief and rehabilitation effort. Ex-combatants first ran their own new motor bikes as urban taxis, but soon began to follow the trail bikes of the NGO workers into the bush.

Surprisingly, their passengers were at times the young women they had targeted in the war. When interviewed about this the women explained that they were trying to re-open business connections but that they were still unsure about local conditions after over a decade of conflict and chaos (Fithen and Richards 2005). They preferred to ride with ex-combatants, because ex-combatant taxi riders understood the hazards of the bush. They had fought there. They knew the terrain and how to avoid or handle bandits.

Rural young men then caught the bike riding bug. One informant in a village near Makeni stated that bike riding was introduced in the early 2000s, when *"our brothers in Makeni* [probably implying ex-combatants] *called us to join them*" (Jenkins et al. forthcoming).

Once feared as rebels the bike riders now became pillars of society. They helped consolidate market integration through helping the flow of trade. In some cases,

they even went into partnership with women passengers, advancing money to fund their market purchases.

In an area once ravaged by attacks from a rebel base in the South Kambui forest reserve one villager told us in 2017 that the bike riders have now "*settled, built houses, married and have children and usual problems* (such as how to pay school fees) *like the rest of us*". Integrated into markets they had also re-joined the enclave. They are citizens once more.

In chapter 5 we glimpsed enclave and competitive individualism engaged in a clash of institutions. But everyone now benefits from bike transportation in areas where, before the war, the only option was to walk. Transportation costs have been reduced. Youth individualism is no longer in conflict with enclave values. A set of "clumsy" institutional compromises has evolved. Williamson, North and Douglas all apply.

However, this work has shown that there is a logical pathway to resolving clash of institutions. It is not necessary to go in and start breaking things down; no need to point a finger or bring in institutional reforms by force. The starting point is to accept all institutional styles of thought as being of equally worthy of respect. People might not be able to solve their problems for themselves, but you (the advocate of change) should know what to support.

During the Sierra Leone Ebola crisis, the Anthropology Platform was able to persuade or convince the Chief Medical Adviser to DFID (Professor Christopher Whitty, now UK Government Chief Medical Officer) that social science was potentially useful in redesigning the Ebola response. He and colleagues then spotted missing ingredients (Whitty et al. 2014). You cannot just fly in an ETC in the way other international organizations wanted (Chapter 4). There needed to

be a way of bridging local and international values to create a shared perspective on the problems that needed to be solved.

The CCC was a good “clumsy solution” because it was hybrid, just like the bike riders and the women traders reinventing capitalism and market integration together on the back of a bike taxi. They created a new institutional world in the same way that CCCs helped bridge the International Ebola response and what people wanted to do for themselves and their families. Left to themselves villagers would have continued to spread Ebola by washing corpses and burying people in traditional ways until the epidemic was beyond rescue. The CCCs allowed an intermediate prospect to emerge.

Thus, the value of this thesis is that institutional reform should not have to “move fast and break things” (allegedly a Facebook motto)! That is not the only approach. In regard to institutional development you need to create conditions to foster hybridity “from below”. People will do it for themselves if they get the right kind of support. Institutional development should not be normative; people overseas should not say this how things are to be done - follow the manual or recipe, or else. Durable institutional solutions that work in Sierra Leone are institutions that have been modified by Sierra Leoneans.

As stated in chapter 1*, kuku jumuku; mua mu hun mia mu hungoh goe* means “to know, you have to be part of it, and if you are an outsider your speech makes no sense”. In other words, Mende people do not easily reveal their thought style to outsiders, except the outsider is part of the action. This implies that effective institutional change must be a collaboration among partners built on a recognizable local framework.

REFERENCES

6, Perri, and Paul Richards 2017, *Mary Douglas: Understanding social thought and conflict*, Oxford and New York: Berghahn

Abdullah, I. 1997, Bush path to destruction: the origin and character of the Revolutionary United Front (RUF/SL), *Africa Development* 22(3), pp. 45-76

Abramowitz, S., McKune S. L., Fallah, M., Monger, J., Tehoungue, K., Omidian, P. A. 2017, The Opposite of Denial: Social Learning at the onset of the Ebola Emergency in Liberia. *J Health Commun*. 2017; 22 (sup1): 59-65. PMID: 28854129. doi: 10.1080/10810730.2016.1209599

Alvares, Fr. Manuel 1990 [c. 1615] *Ethiopia Minor and a geographical account of the Province of Sierra Leone*, in the provisional translation of Paul Hair, 1990)

Archibald, Steven and Paul Richards 2002, Converts to human rights? Popular debate about war and justice in rural central Sierra Leone, *Africa* 72(3), 339-367

Archibald, Steven & Richards, P. 2003, *Where have all the young people gone? Transitioning ex-combatants towards community reconstruction after war in Sierra Leone,* Report for the World Bank and the National Commission for Disarmament, Demobilization and Reintegration, Freetown, 49 pp.

Alldridge, T. J. 1901, *The Sherbro and its hinterland*, London: Macmillan

Awoko (newspaper) 2014, http://awoko.org/2014/08/05/sierra-leone-news-ebola-reaches-pujehun/

Bandura A. 1998, Health promotion from the perspective of social cognitive theory. *Psychology & Health*.13(4):623-49. doi: 10.1080/08870449808407422

Bausch D. G., Schwarz, L. 2014, Outbreak of Ebola Virus Disease in Guinea: Where Ecology Meets Economy. *PLoS Negl Trop Dis* 8(7): e3056. DOI:10.1371/journal.pntd.0003056

Baize, S. et al. 2014, Emergence of Zaire Ebola Virus Disease in Guinea - Preliminary Report. *N Engl J Med*. 2014 Apr 16. PubMed PMID: 24738640.

Bardosh, K., Gercama, I., Bedford, J. 2019, Social Science and Behavioural Data Compilation, DRC Ebola Outbreak, November 2018-February 2019. Social Science in Humanitarian Action [Internet]. 2019 Feb [cited 2019 Apr 4]. Available from https://www.socialscienceinaction.org/resources/social-science-behavioural-data-compilation-drc-ebola-outbreak-november-2018-february-2019/

Bledsoe, Caroline H. 1980, *Women and marriage in Kpelle society*, Stanford: Stanford University Press

Bloch, M. and Sperber, D. 2002, Kinship and evolved psychological dispositions: the mother's brother controversy revisited', *Current Anthropology* 43(5), (2002), pp. 723-748.

Bonwitt, J., Dawson, M., Kandeh, M., Ansumana, R., Sahrd, F., Brown, H. et al. 2017, Unintended consequences of the “bushmeat ban” in West Africa during the 2013–2016 Ebola virus disease epidemic. *Social Science & Medicine*, March, 200:166–73. doi: 10.1016/j.socscimed.2017.12.028

Boozary, A.S., Farmer, P.E., Jha, A.K. The Ebola Outbreak, Fragile Health Systems, and Quality as a Cure. *JAMA*. 2014;312(18):1859-60. doi:10.1001/jama.2014.14387

BMJ [British Medical Journal], UK's plan to build community care centres for Ebola patients is questioned. *BMJ* 349:g6788 2014.

Bulte, E., Mokuwa, E., Richards, P., Voors, M., 2012, *Socio-Economic Baseline Report for "Across the River - A Trans-boundary Peace Park for Sierra Leone and Liberia*" (unpublished)

Bulte, E., Richards, P. and Voors, M. 2018, *Institutions and agrarian development: a new approach to West Africa*, New York: Palgrave Macmillan

Carter, Becky 2014, *Inclusive institutions – topic guide,* Governance and Social Development Resource Centre (GSDRC), University of Birmingham

CDC (U.S. Centers for Disease Control and Prevention) 2014, Taking care of someone with suspected Ebola: be safe while you wait, Information Poster for Sierra Leone, CS252817A, December 2014

Chauveau, J.-P. and Richards, P. 2008, West African insurgencies in comparative perspective: Cote d'Ivoire and Sierra Leone compared, *Journal of Agrarian Change* 8(4), pp. 515-552

Collier, P. and Hoeffler, A. 2000, *Greed and grievance in civil war*, Policy Research Working Paper 2355, World Bank, Washington DC

Crosby, Kenneth Hubert 1937, Polygamy in Mende country, *Africa* 10(3), pp. 249-264

Douglas, Mary 1982, Cultural Bias, *In the Active Voice*. London: Routledge

Douglas, Mary 1987. *How institutions think*, London: Routledge

Douglas, Mary 1999 [1993], *In the Wilderness: the doctrine of defilement in the Book of Numbers*, Oxford: Oxford University Press

Douglas, Mary 1999. Four cultures: the evolution of a parsimonious model. *GeoJournal* 47: 411-15

Douglas, Mary 2004, Traditional culture – let's hear no more about it, In V. Rao and M. Walton, eds., *Culture and public action*, Stanford: Stanford University Press

Douglas, Mary 2004, *Jacob's Tears: The Priestly Work of Reconciliation*, Oxford: Oxford University Press

Dupre, Georges and Rey, Pierre-Philippe 1973, Reflections on a theory of the history of exchange', *Economy and Society* 2(2), pp. 131-63

Durkheim, E. 1964 [1893], *The division of labor in society*, trans. G. Simpson, Free Press: New York NY

Fairhead, J et al. 2003, *African-American exploration in West Africa: four nineteenth century diaries*, Bloomington: Indiana University Press

Fairhead J. 2016, Understanding social resistance to Ebola response in the forest region of the Republic of Guinea: an anthropological perspective. *African Studies Review* Dec 2016; 59(3): 7-31. doi:10.1017/asr.2016.87

Farmer, P., Léandre, F., Mukherjee, J. S., Claude, M. S. et al. 2001, Community-based approaches to HIV treatment in resource-poor settings, *Lancet* 358: 404–09

Fenton, J. S. 1948, *Outline of Native Law in Sierra Leone*, Government Printer, Freetown

Ferme, M. 2001 *The underneath of things: violence, history and the everyday in Sierra Leone*, Berkeley: University of California Press

Fithen, Caspar & Richards, Paul 2005, Making war, crafting peace: militia solidarities and demobilization in Sierra Leone. In *No peace, no war: learning to live with violent conflict,* ed. P. Richards, Oxford: Currey, pp. 117-136

Focus 1000, 2014, *Assessing Public Knowledge, Attitudes, Practices, and Behaviors Relating to Ebola Virus Disease (EVD) in Sierra Leone, Preliminary Report*, 12 September 2014, Freetown (unpublished)

Freudenthal, E. Ebola's lost blood: row over samples flown out of Africa as 'big pharma' set to cash in. *The Telegraph* [Internet]. 2019 Feb 6 [cited 2019 Apr 4] Available from https://www.telegraph.co.uk/news/0/ebolas-lost-blood-row-samples-flown-africa-big-pharma-set-cash/

Garske T, Cori A, Ariyarajah A, Blake I, Dorigatti I, Eckmanns T, Fraser C, Hinsley W, Jombart T, Mills H, Nedjati-Gilani G, Newton E, Nouvellet P, Perkins D, Riley S, Schumacher D, Shah A, Van Kerkhove M, Dye C, Donnelly C 2017. 'Heterogeneities in the case fatality ratio in the West African Ebola outbreak 2013–2016'. *Philosophical Transactions of the Royal Society B: Biological Sciences* **372**. 20160308. 10.1098/rstb.2016.0308.

Gettleman, J. 2014, Ebola should be easy to treat, *New York Times, Sunday Review*, December 21st, 2014, p. SR5

Gibbs, J. 1963, The Kpelle moot: a therapeutic model for the informal settlement of disputes, *Africa* 33, pp.1-11

Gire S. K. et al. 2014, Genomic surveillance elucidates Ebola virus origin and transmission during the 2014 outbreak, *Science*, http://www.sciencemag.org/content/early/recent/28 August 2014/Page 1/ 10.1126/science.125965

Government of Sierra Leone (GoSL) 2014. *Byelaws for all chiefdoms in Sierra Leone: Byelaws for the prevention of Ebola and other diseases, approved by Parliament on Friday 8th August 2014 under Section 29 of the Constitution of Sierra Leone Act No. 6 of 1991*

Grace, J. 1977, Slavery and emancipation among the Mende in Sierra Leone, In *Slavery in Africa: Historical and Anthropological Perspectives*, eds., Suzanne Miers and Igor Kopytoff. (University of Wisconsin Press, Madison, WI 1977.

Greve, Henrich R. and Argote, Linda 2015, Behavioral theories of organization, in *International Encyclopedia of the Social and Behavioral Sciences* (Second Edition)

Guha, Ranajit 1999 [1983] *Elementary aspects of peasant insurgency in colonial India,* Duke University Press, Durham NC and London

Humphreys, M. and Weinstein, J. 2004, *What the fighters say: a survey of ex-combatants in Sierra Leone, June–August 2003*, Report, CGSD Working Paper No. 20, Columbia University, New York, p. 23

Humphreys, M. and Weinstein, J. 2008, Who fights? The determinants of participation in civil war, *American Journal of Political Science*, 52(2) pp. 436-455

ICAP 2015, *Rapid mixed methods assessment of the Ebola community care centre model in Sierra Leone*, ICAP, Mailman School of Public Health, Columbia University, New York (pp. 45).

International Ebola Response Team [Agua-Agum J, Ariyarajah A, Aylward B, Bawo L, Bilivogui P, et al.] 2016, 'Exposure Patterns Driving Ebola Transmission in West Africa: A Retrospective Observational Study'. *PLoS Med* **13**(11): e1002170. https://doi.org/10.1371/journal.pmed.1002170

Jenkins, Jack, Mokuwa, Esther, Peters, Krijn and Richards, Paul 2020, *Rural-urban connectivity strengthens agrarian peace: evidence from a study of gender and motorcycle taxis in Sierra Leone* (working paper)

Krah, E., de Kruijf, J., and Ragno, L. 2017, Integrating traditional healers into the health care system: challenges and opportunities in rural northern Ghana, *J Community Health* 43(1): 157–163, Published online 2017, Jul 5. doi: 10.1007/s10900-017-0398-4

Krauer F, Gsteiger S, Low N, Hansen CH, Althaus CL 2016. 'Heterogeneity in District-Level Transmission of Ebola Virus Disease during the 2013-2015 Epidemic in West Africa'. *PLoS Negl Trop Dis* **10**(7): e0004867. doi:10.1371/journal. pntd.0004867

Lamontagne, F. et al. 2014, Doing Today's Work Superbly Well - Treating Ebola with Current Tools, N Engl J Med. September 24, 2014, and updated on September 25, 2014, DOI: 10.1056/NEJMp1411310

Lave, J. 2011, *Apprenticeship in Critical Ethnographic Practice*. Chicago: Univ. Chicago Pres.

Lave, J., & Wenger E. 1998, *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge Univ. Press

Legg, Sir Thomas and Ibbs, Sir Robin 1998, *Report of the Sierra Leone arms investigation: Return to an Address of the Honourable the House of Commons dated 27th July 1998*, Stationery Office, London

Li-Qun Fang, Yang Yang, Jia-Fu Jiang, Hong-Wu Yao, David Kargbo, Xin-Lou Li, Bao-Gui Jiang, Brima Kargbo, Yi-Gang Tong, Ya-Wei Wang, Kun Liu, Abdul Kamara, Foday Dafae, Alex Kanu, Rui-Ruo Jiang, Ye Sun, Ruo-Xi Sun, Wan-Jun Chen, Mai-Juan Ma, Natalie E. Dean, Harold Thomas, Ira M. Longini Jr., M. Elizabeth Halloran, and Wu-Chun Cao 2016. 'Transmission dynamics of Ebola virus disease and intervention effectiveness in Sierra Leone', *PNAS* April 19, 2016 **113** (16) 4488-4493; first published March 28, 2016 https://doi.org/10.1073/pnas.1518587113

Little, K. 1951 *The Mende of Sierra Leone: a West African people in transition*, London:

Routledge and Kegan Paul

McGovern, M. 2004, Idioms of affinity and difference: the keke-daabe relation, ch. 6, *Unmasking the state: developing modern political subjectivities in 20th century Guinea*. Emory University, Atlanta, Unpublished PhD dissertation.

Mas, L. 2019, Ebola centres attacked in DR Congo as conspiracy theories circulate. France 24 Observers [Internet]. March 2019 [cited 2019 Apr 4]. Available from https://observers.france24.com/en/20190301-drc-congo-ebola-treatment-centres-conspiracy-theories-kivu-butembo

Mauss, Marcel 2002 [1925]. *The gift: the form and reason for exchange in archaic societies*. Mary Douglas (writer of foreword.) and W. D. Halls (translator), London and New York: Routledge

Mokuwa, Gelejimah Alfred 2015. *Management of rice seed during insurgency: a case study in Sierra Leone*, PhD Thesis, Wageningen University

Mokuwa, E., Voors, M., Bulte, E., Richards P. 2011, Peasant grievance and insurgency in Sierra Leone: judicial serfdom as a driver of conflict, *African Affairs*,110/440, 339-366, DOI: 10.1093/afraf/adr019

Moro, C. 2014, http://umap.openstreetmap.fr/en/map/ebola-e-tracking-in-sierra-leone-liberia-and-guine_12522

Mouser, B. 2007, Rebellion, marronage,and *jihad* strategies of resistance to slavery on the Sierra Leone coast, c. 1783-1796, *Journal of African History* 48, pp. 27-44

Murphy, W. P. and Bledsoe C. H. 1987 Kinship and territory in the history of a Kpelle chiefdom (Liberia), In Kopytoff, I, ed. *The African frontier: the reproduction of African traditional societies*, Bloomington: University of Indiana Press, 123-47

Nguyen, Vinh-Kim 2019, An epidemic of suspicion - Ebola and violence in the DRC, *New England Journal of Medicine*, 2019 March 6. doi:10.1056/NEJMp1902682

North, Douglass 1990. *Institutions, institutional change and economic performance*, Cambridge: Cambridge University Press

North, Douglass 1992. *Transaction costs, institutions, and economic performance*. San Francisco, CA: ICS Press

Oosterhoff, P., Mokuwa, E., and Wilkinson, A. 2015. Community-based Ebola Care Centres: a formative evaluation, Ebola Response Anthropology Platform, Institute of Development Studies at University of Sussex (www.ebolaresponseplatform.co.uk)

Parker, Melissa, Tommy M. Hanson, Ahmed Vandi, Lawrence S. Babawo, & Tim Allen 2019, 'Ebola and public authority: saving loved ones in Sierra Leone', *Medical Anthropology*, **38**:5, 440 454, DOI: 10.1080/01459740.2019.1609472

Peters, Krijn 2011, *War and the crisis of youth in Sierra Leone*, Cambridge: International African Institute and Cambridge University Press

Pronyk, P., Rogers, B., Lee, S., Bhatnagar, A., Wolman, Y., Monasch, R., et al. 2016, The effect of community-based prevention and care on Ebola transmission in Sierra Leone, *Am. J. Public Health*, 106: 727-732; 2016

Richards, P. 1986, *Coping with hunger: Hazard and experiment in an African rice-farming System*, London: Allen and Unwin

Richards, P. 2002, Militia conscription in Sierra Leone: recruitment of young fighters in an African war, *Comparative Social Research,* 20, 255-276 (*The comparative study of conscription in the armed forces*, eds., L. Mjoset and S. van Holde)

Richards, P. 2005, To fight or to farm? Agrarian dimensions of the Mano River conflicts (Liberia and Sierra Leone), *African Affairs* 106, no. 417, pp. 571-90.

Richards, Paul 2016. *Ebola: how a people's science helped end an epidemic*, London: Zed Books

Richards, P., Amara, J., Ferme, M. C., Kamara, P., Mokuwa, E., Sheriff, A. I., et al. 2015, Social Pathways for Ebola Virus Disease in Rural Sierra Leone, and Some Implications for Containment, *PLoS Negl Trop Dis* 9(4): e0003567. doi:10.1371/journal.pntd.0003567

Richards, P., Amara, J., Mokuwa, E., Mokuwa, A., & Suluku, R. 2015, *Village Responses to Ebola Virus Disease in Rural Eastern Sierra Leone: Second Interim Report Programme*. Ebola Response Anthropology Platform [Internet]. 2015 [cited 2019 Apr 4]. Available from: http://www.ebola-anthropology.net/case_studies/village-responses-to-ebola-virus-disease-in-rural-eastern-sierra-leone-second-interim-report/

Richards, P., Mokuwa, E., Welmers, P., Maat, H., and Beisel, U. 2019, Trust, and distrust, of Ebola Treatment Centers: A case-study from Sierra Leone, *PLoS ONE* doi: 10.1371/journal.pone.0224511

Richards, P., Mokuwa, A., Vandi, A., and Mayhew, S., 2020, Re-analysing spread of Ebola virus disease in Sierra Leone: the importance of local social dynamics, *PLoS ONE*

Revolutionary United Front of Sierra Leone 1995, *Footpaths to democracy: toward a new Sierra Leone.* RUF/SL, No stated place of publication.

Scott, W. Richard 1995. *Institutions and organizations*, Sage: Thousand Islands CA

Sen, Amartya 1983. *Poverty and Famines: An Essay on Entitlement and Deprivation*, Oxford: Oxford University Press

Sen, Amartya 2004. Capability and well-being, in Nussbaum, Martha and Sen, Amartya (eds.), *The quality of life*, New York: Routledge, pp. 30–53, ISBN 9780415934411.

Sengupta, P., Benjamin, A., Myles, P., Babu, B. 2016, Evaluation of a community-based intervention to improve routine childhood vaccination uptake among migrants in urban slums of Ludhiana, India, *Journal of Public Health* 39, doi 10.1093/pubmed/fdw131

Smillie, I., Gberie, L. and Hazleton, R. 2000, *The heart of the matter: Sierra Leone, diamonds and human security.* Ottawa: Partnership Africa-Canada

Smith, L. A., Gambette, C., and Longley, T. 2004, *Conflict mapping in Sierra Leone: violations of international humanitarian law from 1991 to 2002*, Report: No Peace Without Justice, preliminary edition for the opening of the Special Court for Sierra Leone courthouse, 10 March 2004

Thapa, S., Aro, A. R. 2018, Strategies to integrate community-based traditional and complementary healthcare systems into mainstream HIV prevention programs in resource-limited settings. *Global Health* 14, 64. doi:10.1186/s12992-018-0383-4

Thomson, William Cooper 1846. Narrative of Mr. William Cooper Thomson's journey from Sierra Leone to Timbo, capital of Futa Jallo, in Western Africa, *Journal of the Royal Geographical Society of London*, 16: 106-38

Tuchscherer, C., 1998, Kenneth Hubert Crosby (1904-1998): pioneer scholar of the Mende language, *Journal of African Cultural Studies* 11(2), pp. 217-220

UNDP 2013. Indices & Data | Human Development Index | Human Development Reports (HDR) | United Nations Development Programme (UNDP)". Hdr.undp.org. Retrieved 7 November 2013.

United Nations Development Program 2017. *Human Development Report 2016*, New York: UNDP

Verweij, Marco, Douglas, Mary and others 2006, Clumsy solutions for a complex world: the case of climate change, *Public Administration* 84(4), 817-43

Verweij, Marco 2011, *Clumsy Solutions for a Wicked World: How to Improve Global Governance*, Basingstoke: Palgrave Macmillan

Vinck, P., Pham, P. N., Bindu, K. K., Bedford, J., Nilles, E. J. 2019, Institutional trust and misinformation in the response to the 2018–19 Ebola outbreak in North Kivu, DR Congo: a population-based survey. *The Lancet Infectious Diseases*. March 27 2019. doi:10.1016/S1473-3099(19)30063-5

White L. 2000, *Speaking with vampires: rumour and history in East and Central Africa*. Berkeley CA: Univ. Calif. Press

Walsh, Sinead and Johnson, Oliver 2018. *Getting to Zero: A doctor and a diplomat on the Ebola frontline*, London: Zed Books

Whitty, C. J. M., Farrar, J., Ferguson, N., Edmunds, W. J., Piot, P., Leach, M., Davies, S. C. 2014, Tough choices to reduce Ebola transmission, *Nature* 515, 13 November, 192-4.

WHO 2014a, Ebola Virus Disease in West Africa —The First 9 Months of the epidemic and forward projections, *N Engl J Med*. September 23, 2014, DOI: 10.1056/NEJMoa1411100

WHO 204b, Protocol on safe and dignified burial, http://apps.who.int/iris/bitstream/10665/137379/1/WHO_EVD_GUIDANCE_Burials_14.2_eng.pdf?ua=1

Williamson, Oliver E. 1975, *Market and hierarchies: Analysis and antitrust implications*, New York: Macmillan

Williamson, Oliver E. 1981, The economics of organization: the transaction cost approach, *American Journal of Sociology* 87: 548-577

Williamson, Oliver E. 1985, *The economic institutions of capitalism: firms, markets, relational contracting*, New York: Free Press

Wilson D. 2015, Inside an Ebola Treatment Unit: A Nurse's Report, *American Journal of Nursing*, 115(12): 28-38

Winterbottom, T. 1969 [1803], *An account of the native Africans in the neighbourhood of Sierra Leone*, v. 1. London: Frank Cass

SUMMARY

This work looks at the effect of institutions on development. It draws on fieldwork in a case study country, Sierra Leone. Problems of underdevelopment in Sierra Leone have been linked to institutional failures. This thesis examines that argument, both in relation to agrarian challenges contributing to the civil war of 1991-2002 and the more recent epidemic of Ebola virus disease in 2014-15.

Overall argument: The task of the thesis is to demonstrate that a better understanding of local institutions can contribute to better societal outcomes.

Major research question: How do external actors and rural communities cope with conflicts of institutional values generated in public health provision and agricultural development?

Sub-questions:

1. How and why did EVD spread in rural Sierra Leone? (Chapter 2)?
2. What institutional challenges were raised by the spread of EVD in rural Sierra Leone (chapters 2-4)?
    a. How effectively were these challenges addressed in two specific cases?
        i. large-scale Ebola Treatment Centres (ETCs) (chapter 3), and
        ii. local-level Community Care Centres (ETCs) (chapter 4).
3. What institutional challenges were raised by spread of markets, mining and the money economy for a rural production system based on marriage and marriage-based labour exchange?
    a. How does the case of “woman damage” illuminate the institutional clash between market and lineage social values (Chapter 5)?

   b. Evaluation of this clash using a multiple regression model (Chapter 5)

4. How can a better understanding of institutional conflicts and incompatibilities be introduced into development theory and practice (Chapter 6)?

Chapter 2: The outbreak of Ebola Virus Disease in Upper West Africa 2014-15 is the largest ever recorded. This chapter describes the epidemic in Sierra Leone, one of the three countries most badly affected, and explores some of the social factors responsible for spread of the virus. Molecular evidence infection depended almost exclusively on human-to-human contact. To understand the epidemic and how to stop it social analysis was necessary. The chapter focuses on the spread of Ebola in rural areas, the least fully documented part of the epidemic. Various forms of social networking in rural communities and their relevance for understanding pathways of transmission are described. Particular attention is paid to the relationship between marriage, funerals and land tenure. Funerals were identified as a high-risk factor for infection. To reduce infection funeral practices had to be changed, but since these events are central to the consolidation of community ties this proved to be a difficult task. Local consultation and access are identified as major challenges.

Chapter 3: This chapter considers local responses to the introduction of a large-scale Ebola Treatment Centre in eastern Sierra Leone in 2014-15. Our study used qualitative methods consisting of focus groups and interviews, to gather responses from patients, members of the families of survivors and deceased victims of the disease, social liaison workers from the centre, and members of the general public. The data indicate that scepticism and resistance were widespread at the outset, but that misconceptions were later replaced, in the minds of those directly affected by

the disease, by more positive assessments. Social workers, and social contacts of families with workers in the centre, helped reshape these perceptions. A major factor was direct experience of the disease. This is apparent in the positive endorsements by survivors and families who had members taken to the facility. Even relatives of deceased victims agreed that the centre was valuable. However, we also present evidence of scepticism in the minds of members of the general public, who continued to consider that Ebola was a crisis manufactured for external benefit. Our conclusions stress the importance of better connectivity between communities and Ebola facilities to facilitate experiential learning, but that there is also a need to address the wider cognitive shock caused by a well-funded Ebola health initiative arriving in communities with a long history of inadequate health care. Building trust requires Ebola Virus Disease to be re-contextualized within a framework of concern for the health of all citizens.

Chapter 4: This chapter discusses an institutional innovation intended to address some of the problems apparent in public response to large scale Ebola Treatment Centres apparent in chapter 3. Large-scale bio-secure centres for Ebola were organized by external responders under a strict hierarchy of internal command. These centres were distant from where new cases were emerging, and not well designed to allow families to maintain contact with patients. This was a challenge to local institutional values, rooted in ideas about the need for mutual care for the sick and dead. Families were very slow to reveal Ebola cases to the authorities, and infection spread. A need to accommodate family-based enclave values was recognized and new smaller, decentralized facilities (Community Care Centres) were established. These encouraged some degree of community and family involvement in case management. As a result, families began to feel they were playing a meaningful part in the treatment of their patients, even though basic

biosafety principles had to be followed. Communities were also involved in providing land and in the building of these small centres. This required cooperation between chiefs and land-owning families. Responders stumbled over land tenure issues until local institutional perspectives on land ownership were accommodated. The chapter argues that it is not necessary or helpful to impose "formal" top-down institutions on Ebola response. It may be better to try to work local institutional values into the development "mix".

Chapter 5: Was the civil war in Sierra Leone (1991-2002) fought for diamonds, or was it a peasant insurgency motivated by agrarian grievances? A hypothesis based on agrarian grievance is derived from an examination of the anthropological literature concerning land, labour and marriage and tested using econometric tools applied to data from a randomised household survey undertaken in 178 villages surrounding the Gola Forest in eastern and southern Sierra Leone, the cradle of the war. It is shown that a decade after the war ended peasant disputes over marriage still continue to mark out an incipient class divide in isolated rural communities, as evidenced by cases presented in local courts and family moots. Disputes mainly involve a village elder suing a young man with weak social protection. Fines are exceptionally high. Most fines are paid off in the form of farm labour, as indicated by the statistical finding that the temporal distribution of cases is strongly associated with two periods of peak labour demand on upland rice farms. It is concluded that local requirements to maintain social cohesion through marriage clashes with the growing individualism of labouring youth, and that this is a plausible factor in creating conditions for insurgency. This agrarian hypothesis, in turn, helps account for the otherwise puzzlingly high levels of peasant-upon-peasant violence associated with the civil war in Sierra Leone.

Chapter 6: Concludes the thesis by offering an integrated discussion of the role of institutional factors in social change in rural Sierra Leone, using the framework of institutional theory suggested by Mary Douglas. Village social solidarity illustrates one of four elementary forms of social ordering outlined in chapter 1 – the enclave. This is formed from inter-marriage among patrilineal land holding groups. Since a man or a woman cannot marry within their own patrilineage marriage cements alliances between land holding groups, involving lifelong commitments of mutual support, beginning with bride service, and including support in sickness and death. Payment of bride-service (chapter 5) and participation in funerals (chapter 3) maintain enclave social order. But villages are also part of a national political hierarchy maintained by the state. Hierarchy is a second form of social ordering recognised by Douglas (chapter 1). Every village has a town chief, and every cluster of villages a section chief, ruled by a Paramount Chief, advised by a council of heads of land-owning families. Paramount Chiefs report to district councils and eventually to the Head of State. Chiefs belong to both the government administrative hierarchy and to the social world of land-owning lineages and thus serve to bring some cohesion. Douglas' scheme also recognises two other forms of institutional ordering, isolate and individualistic ordering (chapter1). Isolate ordering describes a group under political or environmental limitations operating in survival mode. In rural Sierra Leone this mode of organization was reverted to when war or disease restricts normal inter-family exchanges. People refer to this as living in "corners" (Mende *sokuihun*). Isolate ordering also used for self-quarantine under Ebola, as summed up in the Mende word for Ebola, *bondawote*, meaning "*family turn away*". Individualist social ordering (chapter 1) is apparent in the emergence of both produce and labour markets in rural areas and posed a problem for Ebola control. Major market centres were nodes for infection (chapter 2).

Chapter 6 also offers an update on issues raised in chapter 5. When the war ended in 2002, NGO motorbikes penetrated to all parts in the relief and rehabilitation effort, despite poor roads. Ex-combatants saw they could use demobilization gratuities to buy cheap Indian bikes and take up work as taxi riders. Surprisingly, young women – a highly targeted group during the war – were prominent among their passengers. When interviewed, they explained that they wanted to trade in the villages but were unsure about local conditions after over a decade of conflict and chaos, so preferred ex-combatant riders who knew how to handle any potential attack by thieves. The ex-fighters returned to the bush, but now as providers of a valuable service. Some started to lodge in villages, and even to build houses, marry and have children. The resident rider is especially valued for being able to ferry passengers for medical treatment at any time. As a result, the institutional values of market and enclave today co-exist more comfortably. This points to the overall conclusion to the thesis; sometimes, in development, it is better to allow people to find their own way, using their own institutional styles.

ACKNOWLEDGEMENTS

For this thesis as a whole, I would like to thank various persons for their support. First, I must thank my promotor Prof. Erwin Bulte, and co-promotors Dr. Harro Maat and Dr. Maarten Voors, who believed in me and encouraged me when I found this work very confusing in the terms of social science methods since my background was as a software engineer. Without your academic guidance and friendship this PhD would not have been possible. Despite your huge academic responsibilities, you provided enough time and effort to closely follow up on my progress and provide helpful critical comments on the issues I encountered in the thesis.

I also wish to mention my parents and siblings who passed away during the time I was engaged on this thesis, especially my late mother who struggled very hard to pay my school fees because she considered education the only legacy she could leave for me, and to my late sister, Ms. Marian Margai, who helped to send money to support us all. I am now almost there when you are physically so far from me. Please receive my heartfelt gratitude through this work. How I miss you all, especially my late father who died on 20th October 2020 as I was finalizing the thesis for printing. We discussed things we would have done during my PhD celebration, but oh we never did, daddy. All of you rest in perfect peace, my dears. There is nothing in this world that would help me express how I miss you all; my heart bleeds with tears of grief.

My sincere thanks and profound gratitude to my husband Paul Richards (known in Sierra Leone as Sefoe) for his encouragement, moral support and patience along the long path from a Diploma in computing, Bachelor's degree in Software Engineering, Master's degree in Engineering Management, and finally a PhD. It was not easy for you, but we all did it. May I take this opportunity also to thank

you for the support and love you always give to my entire family. You provided light through the tunnels. Despite your huge responsibilities you always had enough time to guide me and provide comments on my mistakes. Where would I have been without you, my dear? What a friend you are. To all my children, grandchildren, brothers and sisters and relations, you are here acknowledged for your hard work to support me to come this far, not least those of you going through education at a later age. Know that education has no boundaries; you just need determination and strength.

Epidemics and Community Conflicts

The research described in this thesis was made possible through the following financial support: chapter 2, the International Initiative for Impact Evaluation (3ie) through the Global Development Network (GDN) grant #TW11042 and the UK Economic and Social Research Council (ESRC) grant #ES/J017620/1; chapter 3, the German Research Foundation Program "Infectious Diseases in Africa" grant number BE56824-1 (Grant holders: Beisel and Mokuwa); and chapter 4, UK AID via a grant for an impact assessment of Ebola Community Care Centres Institute of Development Studies (IDS) at the University of Sussex (the Director of IDS, Professor Melissa Leach, is thanked for permission to draw on the data for the purposes of this chapter).

Financial support from the Development Economics Group (WU) for printing this thesis is also gratefully acknowledged.

Cover and Layout: Marjorie Richards and Digiforce

Printed by: DIGIFORCE PRINT AND LOGISTICS www.proefschriftmaken.nl

E.Y. Mokuwa 2020