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**Confronting civil war:
a comparative study of household assets management in
southern Sudan**

Luka Biong Deng

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INSTITUTE OF DEVELOPMENT STUDIES
Brighton, Sussex BN1 9RE
ENGLAND

Summary

This paper examines the assets management strategies adopted by households exposed to prolonged civil war. The paper is based on fieldwork conducted in Bahr el Ghazal region, southern Sudan in 2000–1, which covered 563 sample households that were exposed during the 1990s to counterinsurgency warfare and drought. The paper reviews and critiques risk management approaches in the context of civil war. It is argued that civil wars are caused by grievances and sustained by greed and economic agenda. In the context of Sudan the policies pursued by the ruling northern elite resulted in apparent regional socio-economic inequality with southern Sudan suffering most, which generated grievances and rebellion in the south. A distinction is made between exogenous and endogenous counterinsurgency warfare with endogenous counterinsurgency warfare having more profound effects on the rural livelihoods than other forms of conflict. The findings of the fieldwork support the hypothesis that communities exposed to the risk of civil war consciously take rational courses of action over their assets to confront the adverse effects of the war. The study found that non-poor households were, paradoxically, more susceptible to the risk of endogenous counterinsurgency warfare than poor households. Contrary to the prevalent view in the literature, the study found that diversification might not be the best risk management strategy for households exposed to the risk of counterinsurgency warfare, as some households tend to specialise. While endogenous counterinsurgency warfare tends to erode social capital, communities exposed to exogenous counterinsurgency tend to be more cohesive with strong community-based risk sharing arrangements. Also contrary to the prevailing assets-vulnerability argument, the study found a significant positive correlation between famine mortality and initial wealth, particularly among households exposed to the risk of endogenous counterinsurgency warfare. The study found the normal inverse correlation between famine mortality and wealth among households exposed to drought while households exposed to the risk of exogenous counterinsurgency warfare, paradoxically, did not experience any excess mortality during the famine of 1998. One apparent policy implication is that as communities exposed to civil war consciously manage their assets, it is possible to pursue poverty programmes during conflict in order to support the innovative household assets management strategies as well as addressing the underlying sources of grievance and horizontal inequality. While such programmes may not be relevant to communities exposed to endogenous counterinsurgency warfare, they are appropriate to support assets management strategies adopted by households exposed to exogenous counterinsurgency warfare.

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Contents

	Summary	iii
	Acknowledgements	iv
	List of Figures	vi
	List of Maps	vi
	List of Tables	vi
	Executive Summary	vii
1	Introduction	1
2	Methodology	2
3	Analytical framework	5
4	Risk literature and civil war	6
	4.1 The aetiology of civil war: grievance or greed?	7
	4.2 Risk attitudes, diversification and civil war	14
	4.3 Social capital and civil war	16
	4.4 Vulnerability and civil war	18
	4.5 Famine and civil war	20
5	Causes of civil war: the case of Sudan	21
	5.1 Psychological makeup: ethnicity and religion	22
	5.2 The role of elites: Sudan failed by its ruling elite	24
	5.3 Horizontal inequality: grievances and marginal cost of rebellion	25
	5.4 The curse of natural resources: extractive development policies	28
	5.5 Economic crisis: structural adjustments and debt burden	32
	5.6 Counterinsurgency warfare: "scorched earth strategy"	36
6	Household assets management strategies in the 1990s	39
	6.1 Sources of risk in Bahr el Ghazal region in the 1990s	39
	6.2 The curse of assets: susceptibility to counterinsurgency warfare	41
	6.3 Diversification: the behaviour of the non-poor	44
	6.4 Social capital and counterinsurgency warfare	54
	6.5 Famine mortality and counterinsurgency warfare	58
7	Conclusions	61
	7.1 Causation of civil war	61
	7.2 Susceptibility to risk events	62
	7.3 Diversification	63
	7.4 Social capital	63
	7.5 Famine mortality	64
	7.6 Policy implications	64
	References	66

Figures

Figure 3.1	Risk management analytical framework	5
Figure 4.1	The aetiology of civil war	14
Figure 4.2	Assets, vulnerability and shocks	20
Figure 5.1	Southern Sudan planned and actual budget, 1972–83	26
Figure 5.2	Sudan health and education access inequality, 1980	27
Figure 5.3	Sudan banking, university and health access inequality, 1980	27
Figure 5.4	Sudan agriculture and foreign debt, 1965–83	35
Figure 5.5	Sudan inflation and GDP growth, 1965–83	35
Figure 5.6	Sudan exports, oil export and inflation, 1992–2000	38
Figure 6.1	Sources of risk in Bahr el Ghazal region, southern Sudan, 1990s	40
Figure 6.2	Susceptibility to endogenous counterinsurgency warfare in Gogrial, 1990s	43
Figure 6.3	Household risk management objectives and strategies	46
Figure 6.4	Assets management strategies during civil war	47
Figure 6.5	Changes in sources of livelihood in Bahr el Ghazal region, 1990s	48

Maps

Map 2.1	Research areas in Bahr el Ghazal region, southern Sudan	3
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Tables

Table 6.1	Comparison of sources of risk in Bahr el Ghazal region, southern Sudan, 1990s	41
Table 6.2	Level of household susceptibility to counterinsurgency warfare	42
Table 6.3	Types of household livelihoods in the 1990s compared to pre-conflict periods	49
Table 6.4	Level of household farms spatial diversification in the 1990s	50
Table 6.5	Level of household human asset spatial diversification in the 1990s	51
Table 6.6	Level of household access to markets in government-held areas in the 1990s	53
Table 6.7	Level of household social asset spatial diversification in the 1990s	58
Table 6.8	Level of household members mortality during famine in 1998	60

Executive Summary

The upsurge of civil wars in Africa is posing a compelling research need to improve understanding of them for better policy direction, as there is an apparent dearth of information and understanding of risk-related behaviours of communities and households exposed to protracted civil war. The rationale for this study stemmed from this apparent gap in the literature and aims at shedding light on how households exposed to the risk of civil war manage their assets to reduce and/or avoid the anticipated and actual adverse effects of civil war. Specifically the study investigated in the context of Sudan's civil war, causes of civil war, susceptibility to civil war, level of diversification, role of social capital and risk management outcomes.

It is argued in this paper that civil war is a complex phenomenon and context specific, which makes it extremely difficult to generalise or to be analysed either by one discipline or to be attributed to one or a few factors in isolation of other factors. It is observed that the divergent views about the causes of civil war could be attributed to academic discipline biases, level of analysis and period of analysis. Most researches on the causation of civil war tend to focus on the meso-factors during and when the civil war had already erupted, and such analysis runs the risk of ascribing the conditions during civil war as causes rather than pre-war conditions. It is argued in the paper that civil wars are caused by grievances that are triggered by factors at global, national and community levels and are equally sustained by greed and economic agenda through reproduction factors at macro, meso and micro levels. In the context of Sudan's civil war, the global factors such as colonial legacy, structural adjustments, debt burden and multinational corporations all contributed to the failure of the ruling elite, adoption of extractive development of natural resources (oil and water) and economic crisis at national level. These factors at national level subsequently caused socio-economic grievances and horizontal regional inequalities, with southern Sudan suffering most, and that triggered rebellion and civil war in southern Sudan.

In the midst of civil war, greed and economic agenda become the dominant phenomenon at global, national and community levels. The global factors such as the politics of arms sales, structural adjustment, debt burden and the role of multinational corporations all tend to contribute to the reproduction of civil wars. At national level, vulnerable central governments adopt in collaboration with multinational corporations extractive development of natural resources, as well as using ethnicity and religion to mobilise resources for the sustenance of the war economy. At the community level, factors such as counterinsurgency warfare, proliferation of small arms, the behaviour of warlords and survival strategies of combatants all intensify and magnify civil wars. In the context of Sudan's civil war, the activities of multinational corporations in developing oil in southern Sudan have encouraged the military government to adopt an extractive oil development policy and to pursue a "scorched earth strategy" and counterinsurgency warfare to clear the oilfields of the indigenous communities. The military government also adopted an extreme and fanatic Arab-Islamic paradigm in order to pursue effectively civil war and counterinsurgency warfare in southern Sudan, and that resulted in gross human right abuses, atrocities and ethnic/religious cleansing in southern Sudan. It is clearly shown in the paper that the multinational

corporations are part and parcel of the government military strategies of a “scorched earth policy” and counterinsurgency warfare in southern Sudan.

In the context of Sudan’s civil war, communities attach more importance to counterinsurgency warfare than to conventional warfare between the government and rebels as counterinsurgency warfare has direct effects on their livelihoods. In order to understand the dynamics of counterinsurgency warfare, the paper classifies counterinsurgency warfare into *exogenous* and *endogenous*. The main distinction between these two types of counterinsurgency warfare is that endogenous counterinsurgency warfare emanates and consists of members from within the community while exogenous counterinsurgency warfare originates and primarily consists of members from outside the community. The paper has shown that endogenous counterinsurgency warfare has more profound negative effects on rural livelihoods and household assets management strategies than other forms of conflict.

The paper assesses in the context of civil war the assumption in the risk literature that imputes vulnerability and susceptibility to risk events to the level of household assets ownership, with poor households suffering more than non-poor households do. Using frequency of displacements as a proxy indicator for susceptibility to counterinsurgency warfare, the study shows the higher number of displacements is significantly associated with non-poor households while poor households tend to experience fewer displacements, particularly in the context of endogenous counterinsurgency warfare. This finding clearly suggests, at least in the context of Sudan’s civil war, that the level of household assets holdings is significantly linked to the occurrence of counterinsurgency warfare, with non-poor households becoming more susceptible to endogenous counterinsurgency warfare than poor households. This observed association between the occurrence of endogenous counterinsurgency warfare and household assets ownership confirms the greed and economic agenda that prevail in the midst of civil war. Also in the context of endogenous counterinsurgency warfare, the symmetric information between the government Dinka militias and other community members explains the specificity of attacks that primarily aim at assets, with non-poor households suffering most.

In the context of exogenous counterinsurgency warfare, the poor and non-poor households experienced a similar pattern of displacements, with non-poor households experiencing an insignificantly higher number of displacements than poor households. This random occurrence pattern of exogenous counterinsurgency is largely related to asymmetric information between the government Arab militias and the Dinka community and their cumulative experience, which improved their learning curve over time about Arab militia attacks. This finding clearly suggests that exogenous counterinsurgency warfare is less severe than endogenous counterinsurgency warfare and projects as well similar characteristics to other exogenous risk events such as drought.

The study also examines the general perception that households exposed to civil war and particularly to counterinsurgency warfare do not take any ex-ante risk management strategies as the very nature of civil war would preclude such measures. Taking diversification as a risk management strategy that is widely adopted by households, the study shows that households exposed to counterinsurgency warfare diversify their livelihoods except in livelihood activities related to livestock management and crops production. The

study finds that about 14 per cent of households, mainly non-poor households, that were exposed to exogenous counterinsurgency warfare abandoned agro-pastoralist livelihoods and adopted instead pure pastoralist livelihoods. Interestingly, the traditional practice of giving cattle for custody (*keuzi*) increased slightly more among households exposed to exogenous counterinsurgency warfare than among those exposed to endogenous counterinsurgency warfare, with custodians being drawn more from maternal relatives than from paternal relatives or friends. This finding clearly challenges, at least in the context of Sudan's civil war, the posited argument that suggests risk aversion declines with wealth.

The study also shows that the households exposed to counterinsurgency warfare tend to have fewer farming fields compared to during pre-conflict periods and compared to drought-prone communities. The households exposed to exogenous counterinsurgency warfare even abandoned the crops enterprise diversification that existed during pre-conflict periods and adopted instead mono-crop (mainly sorghum) farming. This finding clearly contradicts the dominant argument in the risk literature that suggests that the more households are exposed to risk events the more they diversify to confront the risk events. These findings suggest instead that diversification is not the best risk management strategy options for households exposed to counterinsurgency warfare particularly in livelihood activities related to farming and livestock management.

It is generally argued that the upsurge of civil wars in Africa has a considerable negative impact on the socio-economic structures of the rural communities, particularly the apparent weakening or even breakdown of organised society particularly social capital. There is also a general perception that the civil wars, particularly counterinsurgency warfare, deliberately target social capital, which becomes one of the first casualties of civil war. The study examines, in the context of Sudan's civil war, the perceived inverse relation between social capital and civil wars particularly counterinsurgency warfare. The study shows that while the contribution of social capital to household livelihood slightly increased among households exposed to exogenous counterinsurgency, it has considerably declined among households exposed to endogenous counterinsurgency warfare. Also, using the number of wives during civil war as a proxy indicator for investment in social capital, households exposed to exogenous counterinsurgency warfare had a relatively higher number of wives than those households exposed to endogenous counterinsurgency warfare. These findings suggest that while endogenous counterinsurgency warfare erodes social capital, exogenous counterinsurgency warfare tends to strengthen cohesion, social ties and community-based risk sharing arrangements. These findings also suggest that civil war is complex and context specific and that failure to unravel these dynamics could lead to an erroneous conclusion that social capital inevitably erodes during civil war.

There is a common consensus from the available literature on linking vulnerability to initial assets base, with poor households suffering proportionally greater welfare losses than non-poor for given levels of risk. This argument is rightly grounded in the fact that risk events are transmitted through household initial assets that neither cause nor trigger the occurrence of risk events. Examining this argument in the context of civil war, the study shows in the context of exogenous counterinsurgency warfare that the initially non-poor households experienced significantly higher famine mortality during the famine of 1998

than poor households. The study also finds positive and significant correlation between the level of household initial wealth and famine mortality among households exposed to endogenous counterinsurgency warfare. This surprising finding of positive and significant correlation between initial wealth and famine mortality in the context of endogenous counterinsurgency warfare is largely related to the nature of risk and symmetric information, with non-poor households becoming more susceptible to risk events and suffering higher welfare losses, including social and psychological trauma, than non-poor households.

The paper shows that the current civil war in Sudan is not so much a senseless outbreak of violence that is caused by greed, but is rather a result of socio-economic and political grievances that are deeply rooted in the British colonial legacy and subsequently reinforced by multilateral institutions and multinational corporations. One policy implication is that the international community, including its multinational corporations, should recognise that they are part and parcel of the current civil war in Sudan and should support and design relevant programmes that will address the long-standing deprivation and horizontal inequalities suffered by southern Sudan. As the study has shown that counterinsurgency warfare has a more profound negative impact on rural livelihoods than has conventional warfare, it is implicit that the search for peace in Sudan should equally address the local conflicts and grievances that are fuelled by counterinsurgency warfare. One specific policy implication for addressing local conflicts and grievances is to encourage development of local markets that will encourage interactions and normalisation of relationships among various communities as well as encouraging grass-root peace-building initiatives. The experience of communities exposed to exogenous counterinsurgency warfare during the 1990s clearly suggests the need to pursue rehabilitation programmes to support the current innovative household assets management and livelihood strategies as well as addressing the underlying sources of grievances and long-standing horizontal inequality.

The long-lasting and sustainable solution of the current conflict in Sudan rests with the international community to encourage and exert pressure on the fighting parties to create a conducive environment for the communities in the marginalised regions of Sudan to freely choose the appropriate political arrangements for the future state in the country. Though the global values such as citizenship, basic human rights and democracy are likely to shape the peace efforts initiated by the international community, it is crucial that the will and choice of people should be respected so as to avoid future conflict in Sudan.

1 Introduction

Civil wars¹ have become pronounced in and endemic to many African countries since the end of the Cold War. It is estimated that 20 per cent of sub-Saharan Africa's population now live in countries that are at war with themselves and low-intensity conflict has become endemic to many other African countries (Elbadawi and Sambanis 2000). In comparison to other regions, Africa has the highest incidence of intense civil wars, with an increasing trend during the last two decades, while the trend has fallen or remained stagnant in other regions.

The risk of civil wars in much of Africa stands now as the leading contributory cause of vulnerability during the last two decades and has overtaken the long dominant role of ecological risk. The causes of African famines during the last two decades as noted by Devereux (2000) have evolved from being mainly drought to civil wars as the main triggers. For example during the 1990s, von Braun, Teklu and Webb (1998) identify only one famine out of a total of eight famines in Africa that was mainly caused by drought while the rest were mainly triggered by civil wars.

Globally, civil wars, for example in 1996, put at least 80 million people at risk of hunger and malnutrition with 30 million people in zones of active conflict (Messer, Cohen and D'Costa 1998). The number of refugees rose to 23 million in 1996, up from 2.5 million in 1974 and the number of internally displaced persons was estimated at 27 million (Hansch 1996). It is estimated also that warfare has cost up to a million lives per year over the last 20 years (Messer *et al.* 1998). Elbadawi and Sambanis (2000) show that Africa has the highest war-related deaths per unit of time compared to other regions in the last 40 years and is second to Asia in terms of aggregate war-related deaths excluding deaths that were caused indirectly by civil wars. Also, in terms of social services forgone for military expenditure, the developing countries spent about US\$775 billion from 1960 to 1994 on arms imports, with an estimated 100 million antipersonnel land mines littering 69 countries (Sivard 1996). Emergency assistance for zones of armed conflict continues to hijack foreign assistance flows that overall are shrinking in response to economic downturns and domestic pressures to cut budgets and welfare spending (Marchione 1996).

¹ The term civil war has various definitions and refers to various terms such as internal conflicts, political violence, armed conflict, civil strife, civil conflict and 'new wars'. Stockholm International Peace Research Institute (SIPRI) and Sivard (1996) define civil war in terms of any violence resulting in more than 1,000 conflict-related deaths per annum. (This definition is widely used by economists in their analysis). Green (1997) defines civil war as 'generalized, sustained violence afflicting most or all of a State'. Stewart, Humphreys and Lea (1997) define civil war in terms of major participants on different sides as being groups within a state with political goals of challenging or upholding government authority that involve large scale violence. Gurr (1970: 4) defines political violence as collective attacks within a political community against the political regime that involve use of violence to attain ends within or outside the political order. Gurr (1970: 11) identifies three forms of political violence namely: turmoil (relatively spontaneous, unorganized political violence with substantial popular participation), conspiracy (highly organized political violence with limited participation) and internal war (highly organized political violence designed to overthrow the regime with widespread popular participation). Eckstein (1965: 133) broadly defines internal war as 'any resort to violence within a political order to change its constitution, rulers, or policies'. While civil war is normally portrayed as a breakdown of 'normal' peacetime economic, social and political development (Berdal and Malone 2000; Luckham, Ahmed, Muggah and White 2001), others (Keen 1997) view civil war not merely as the breakdown of society but also as a way of re-ordering society in particular ways.

This upsurge of civil wars in the world, and in Africa in particular, has posed a compelling need to improve understanding of them for a better policy direction as there is an apparent dearth of information and understanding of risk-related behaviours of communities and households exposed to prolonged civil wars. It has been recognised by many researchers (Chambers 1989; Swift 1989; de Waal 1993, Buchanan-Smith and Davies 1995; Cliffe and Luckham 1998) that civil war, compared to other contributory causes of vulnerability in rural sub-Saharan Africa such as drought, receives far less attention than it deserves.

The rationale for this study stemmed from an apparent gap in the literature, as very little is known about the risk-related behaviours of households and communities exposed to the risk of civil war. The aim of the study is to shed light on how households exposed to the risk of civil wars manage their assets to reduce and/or avoid the anticipated and actual adverse effects of civil war. Specifically, the study investigated the following research questions:

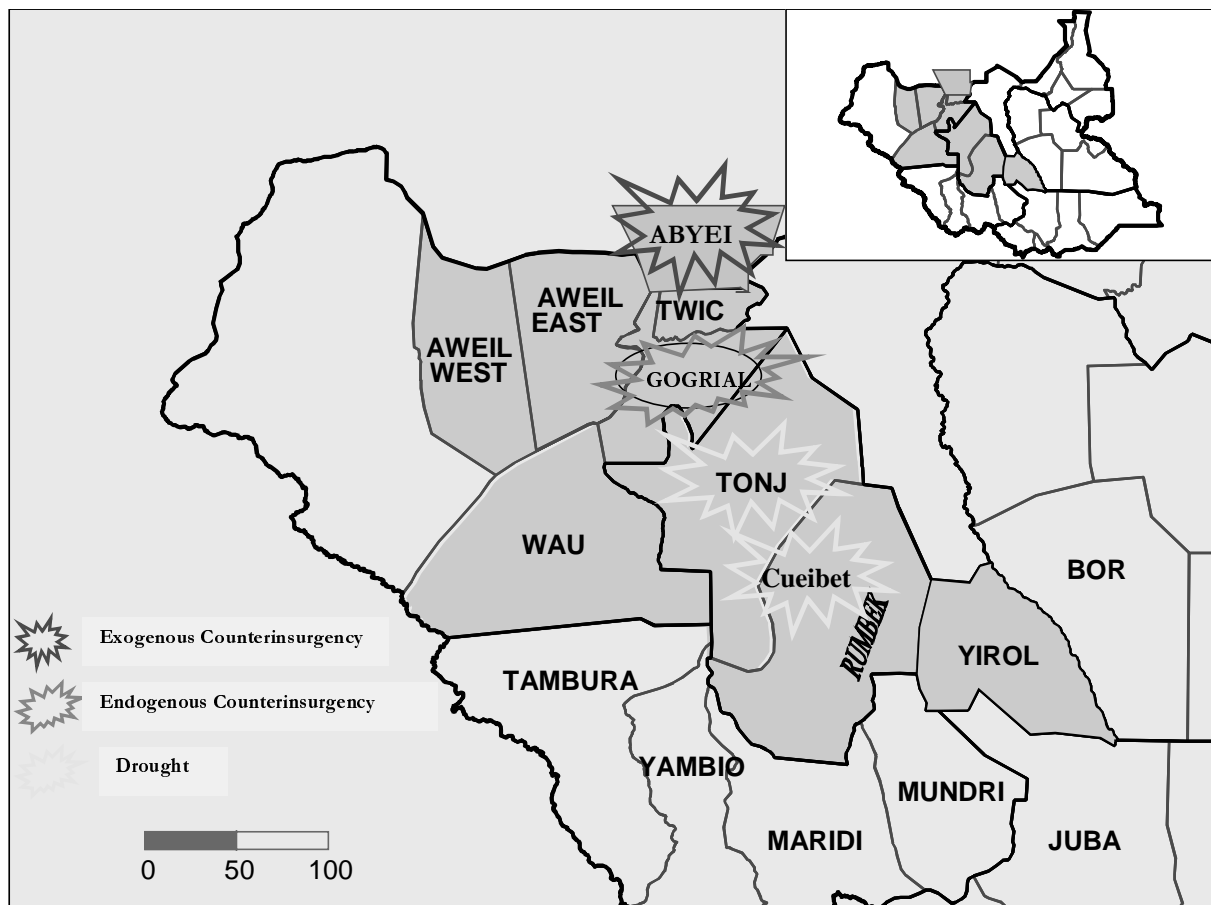
- What causes civil war?
- How far is the occurrence of civil war associated with households' initial assets holdings?
- Do households exposed to the risk of civil war take ex-ante risk management strategies?
- To what level do households exposed to the risk of civil war diversify their livelihoods and assets?
- To what level has civil war disrupted social capital?
- How far are risk outcomes (famine mortality) associated with initial household wealth status?

The paper begins with a brief presentation of the context of the fieldwork, methodology and the research communities in Section 2. Section 3 discusses the analytical framework while the main debates in risk literature in relation to civil war are discussed in Section 4. Section 5 discusses the causes of Sudan's civil war while Section 6 discusses susceptibility to risk, household assets management strategies (diversification and social capital) and risk outcomes (famine mortality). The paper then concludes in Section 7 with a summary of the main findings and policy implications.

2 Methodology

Sudan and particularly Bahr el Ghazal region in southern Sudan was chosen to test the aforementioned research questions because of its unique characteristics and experience in the 1990s. Four research communities in Bahr el Ghazal region were identified to represent households exposed to the three main different sources of risk: exogenous counterinsurgency warfare (Arab militia, *Murahaliin*), endogenous counterinsurgency warfare (Dinka militia, Kerubino) and drought as shown in Map 2.1. The Abyei community (Kiirkou) in the extreme north of the region was selected to represent households that were primarily exposed to exogenous counterinsurgency warfare, while the Gogrial (Alek) community in the centre of the region was selected to represent households that were exposed to endogenous counterinsurgency warfare. Cuiebet (Langdit) and Tonj (Thiet) communities in the southern part of Bahr el Ghazal region were selected as households that were primarily exposed to drought during the 1990s.

Map 2.1: Research areas in Bahr el Ghazal region, southern Sudan



Source: Community surveys

The research fieldwork was carried out between May 2000 and March 2001 and basically used economic-anthropological inquiry and the food economy approach to collect the necessary qualitative and quantitative data for the study. Four enumerators were selected from the four research communities (Abyei, Gogrial, Cuiabet and Tonj) and were trained for one week on the food economy approach, participatory rural appraisal methods, and household surveys. The household questionnaire was collectively discussed, tested and then interpreted and translated into three dialects of Dinka language (Rek, Ngok and Gok) by the enumerators to ensure their understanding of the questionnaire in their local context. After completion of the training of the enumerators, the second phase of follow-up training and testing of the household questionnaire was then carried out on site in each research area to ensure further the clear understanding of the questionnaire and methods to be used during household interviews. After the completion of the household survey, the enumerators together with the main researchers held a two-day workshop in April 2001 to share common themes and trends in the data generated and to build common consensus based on their personal experience, local knowledge and observations during the survey.

Sample household and community surveys were used to collect the necessary data for the study. In the household survey a purposive sampling was used to select one village in each research community.

The selection of sample households in each village was random and a total of 563 households were interviewed: exogenous counterinsurgency (Abyei, 211 households), endogenous counterinsurgency (Gogrial, 205 households) and drought (Tonj and Cuiebet, 147 households). In the community survey some nine lengthy community group discussions were conducted and targeted community leaders (men and women separately) to gather qualitative data that did not vary very much between households as well as gathering general contextual data related to each research community.

Identical survey methods, primarily the questionnaire and checklist, were used to allow for contrasts and comparisons across and within the research communities. In the household sample survey a semi-structured interview was primarily used and simultaneously complemented by other PRA (Participatory Rural Appraisal) methods such as proportional piling, trend analysis and ranking. The community survey, on the other hand, used a checklist for group discussion together with other PRA methods such as proportional piling, wealth ranking, trend analysis, risk mapping and seasonal calendar.

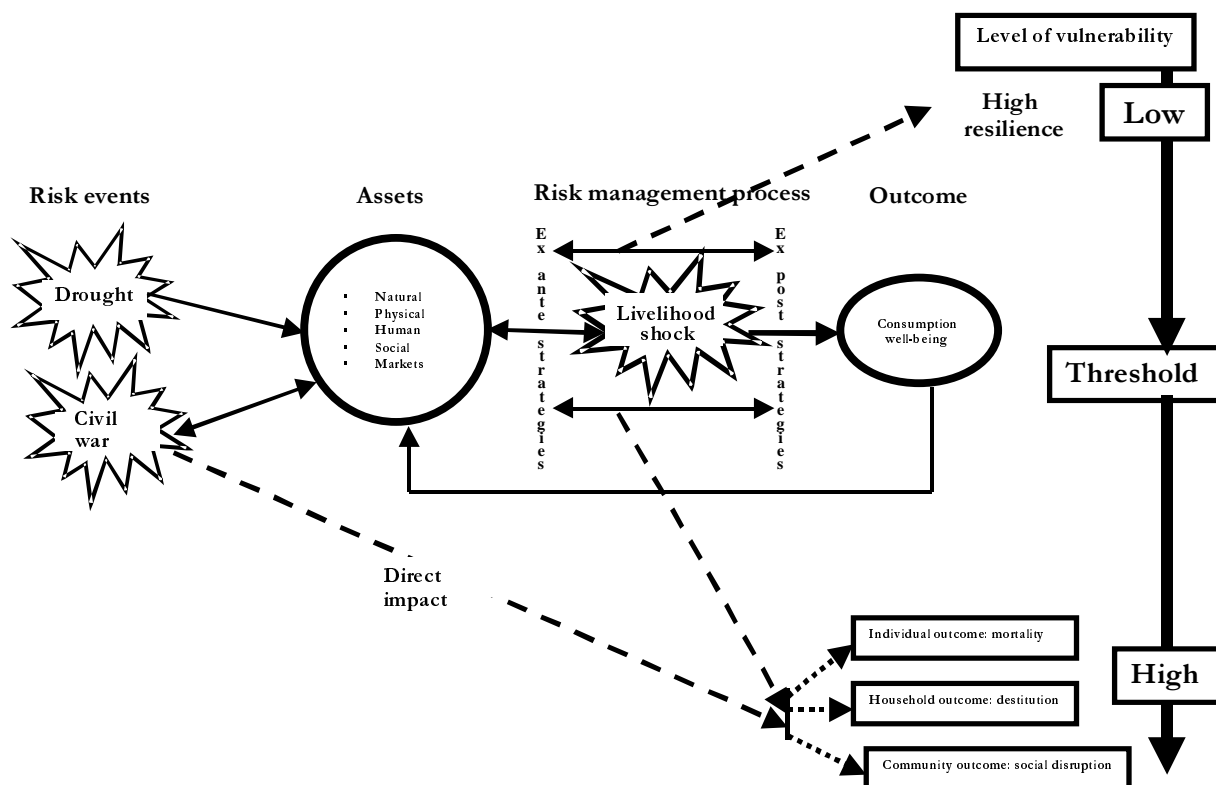
The sample household and community surveys provided different types of data. The data collected was related to: risk/shocks, wealth status, livelihood diversification, assets management and production systems including utilisation of natural resources, access to markets and risk outcomes (consumption, forced migration, sale of assets, mortality). The data generated includes longitudinal trend data, cross-sectional static data and comparative static data. *Statistical Package for Social Sciences* (SPSS) was used for data analysis (Puri 1996; Rodeghier 1996; Norusis 1997; Nachmias 1996; SPSS 1998). Given the fact that the primary fieldwork household data represents small samples that may not satisfy the detailed assumptions about the entire population, contingency tables and non-parametric tests (distribution-free tests) were used and the results of such analysis were triangulated by qualitative data from the community survey.

The main challenges and constraints during the research fieldwork were mainly insecurity and the high expectations among the research communities as a result of endless cycles of rapid need assessments being carried out by United Nations (UN) agencies and non-governmental organisations (NGOs). During July 2000, the war between the government and the main rebel movement in the south intensified and this encouraged the government to intensify aerial bombardments during the rest of the year targeting the civilian population. During July–August 2000 more than 250 bombs were dropped, mainly in Bahr el Ghazal region, killing more than 20 persons and injuring more than 100 and creating panic among the communities. Also during September 2000, while I was carrying out fieldwork serious tribal fighting erupted among the communities that resulted in the death of 23 persons with more than 30 persons injured. The problem of high expectations among the research communities was overcome by spending more time to explain the objectives of the research and by employing the enumerators from within the research communities.

3 Analytical framework

The study was guided and carried out in the context of a risk management analytical framework that was grounded in the available literature on risk² (Arrow 1971; Alderman and Paxson 1992; Moser 1998; Siegel and Alwang 1999) and literature on vulnerability and livelihoods (Sen 1981; Chambers 1989; Davies 1993; Devereux 1993; Swift 1993; Ellis 1998; Scoones 1998). The framework as set out in Figure 3.1 was developed to understand conceptually the dynamic process of risk events, assets available with households (endowments), risk management process and its resultant outcome. This framework regards the asset status (owned, controlled, claimed or accessed) of households as the basic households' livelihood building-blocks and subsequently they are fundamental to understanding households' risk-related behaviours and the strategies they adopt for survival, and their vulnerability to adverse trends and events.

Figure 3.1 Risk management analytical framework



The framework identifies two critical periods of risk management – the period before the occurrence of a risk and the period after its occurrence – that constitute the basis for human reaction to risk and its

² The terms risk and uncertainty are respectively referred to as uncertain (i.e. stochastic) events and outcomes with known and unknown probability distributions. While risk refers to situations where probabilities can be attached to the occurrence of risk events that influence household decision-making processes, uncertainty refers to situations where it is not possible to assign probabilities (Siegel and Alwang 1999: 3). Specifically Anderson, Dillan and Hardaker (1977), in the context of household's agriculture decision-making process, define risk as the subjective probability attached by households or individuals towards the outcomes of the various income generating activities in which they are engaged.

management. As the household reaction to risk and its management primarily depend on assets available, risk management is basically synonymous with the asset-based management approach that uses a broad definition of assets. It is on the basis of this understanding that household risk management is broadly referred to as the set of mechanisms used by households to deal with anticipated or actual losses associated with uncertain events and outcomes (Siegel and Alwang 1999). This set of mechanisms basically draws on all tangible (human, natural, physical, markets and infrastructure) and intangible (social) assets that are available with households.

The framework suggests that the process of risk management starts with households having perceptions about risk events. The risk events in terms of their perception and occurrence are transmitted, depending on the nature of risk, through assets (Siegel and Alwang 1999). Depending on households' perception about risk events, asset base and their preference towards risk, they voluntarily and deliberately adopt *ex-ante risk management strategies* before the occurrence of risk events to reduce the anticipated adverse effects of risk events on their livelihoods. When the risk event occurs, households take *ex-post risk outcome management strategies* to cushion the actual adverse effects of livelihood shock on consumption and well-being. There is, however, no common agreement about whether ex-post strategies are an aspect of risk management strategies. While some (Ellis 1998) consider ex-post strategies as unplanned reactions to unexpected livelihoods failure, others (World Bank 1990; Alderman and Paxson 1992; Siegel and Alwang 1999) consider them as an integral part of the household risk management behaviour. As shown in Figure 3.1, both strategies (ex ante and ex post) are sequentially and interdependently adopted and decided by a household as part of the planning process in anticipation of, and in response to, risk events and outcomes.

The effectiveness of households' risk management strategies depends not only on their initial assets ownership but also on their ability to transform their initial assets into livelihood as ex-ante measures (income smoothing) and their ability to transform livelihood into consumption and well-being as ex-post measures (consumption smoothing). The way the household succeeds in managing risk events and their outcome and the pattern of occurrence of risk events will all improve the household's risk learning curve, which will greatly affect household attitudes and behaviour in the subsequent periods of risk management.

This framework was developed in the context of fairly predictable risk events such as drought and economic shocks and has been used as a micro livelihood strategies analysis tool as well as a research tool to test its relevancy to the context of civil wars. In particular the aforementioned study questions were drawn from this analytical framework.

4 Risk literature and civil war

The current debates in the literature of risk and its management and their relevance to civil war largely shaped the aforementioned research questions. Most of these debates are derived from the conceptual framework and centred around: (i) causes of risk events, (ii) risks and assets management strategies and (iii) asset-vulnerability approach, in a fairly predictable risk context such as drought and economic shocks.

The relevance of such debates to the context of civil war is briefly discussed below under the issues related to causes of risk events, risk attitudes, assets and vulnerability, social capital and risk outcome.

4.1 The aetiology of civil war: grievance or greed?

It is generally recognised that the sources and nature of risk as well as the level of community exposure to them have an important bearing on the effectiveness of risk management. Most debates in the risk literature seem to attach more importance to the level of risk exposure rather than to its determinants. On the basis of the community exposure to risk events in terms of intensity, duration and geographical or social spread, the risk events regardless of their causes are generally categorised into *idiosyncratic* and *covariate* risks.

The contribution of each category of risk events (idiosyncratic and covariate) to the overall variability of household livelihoods plays an important role in risk management. Though it is generally recognised that idiosyncratic risks are more manageable than covariate risks, there is no consensus over the magnitude of idiosyncratic risk in relation to covariate risks in the low-income agricultural environments (Devereux 1999; Siegel and Alwang 1999; Townsend 1995; Alderman and Paxson 1992; Deaton 1992; Carter 1991; Morduch 1991; Udry 1990).

What is apparently not clear in the risk literature, or inherently implied, is the causative relationship between risk exposure and household assets. In particular what are the determinants and causes of risk events? It is generally implied or assumed in the risk literature that risk events such as drought are treated as exogenous factors that are independent of household assets ownership or household livelihood decision making. Many studies on livelihood and vulnerability tend to lump together various shocks including civil wars as exogenous with the implicit assumption that they will trigger a similar pattern of household responses (Siegel and Alwang 1999; Moser 1998; Sen 1981). This exogenous assumption is crucial in risk literature as it allows the treatment of risk management as an asset-based approach. It is also relevant to risk events such as drought as the link between the occurrence of drought and human activities is more conspicuous at the global level than at household level.

The relevancy of this assumption of de-linking the causes of risk events from household assets to the context of civil war requires a better understanding of the causes of civil war. There is a wide spectrum of strands and schools of thought about the causes of civil wars ranging among neo-Malthusian, psychologists, political scientists, anthropologists and economists. Generally on the causes of civil war, the competing theoretical perspectives are *grievance* and *greed*: the former contends that peoples' discontent about unjust deprivation is the primary motivation for political action, while the latter sees criminal agendas as a primary driving force of civil conflict. The various arguments about the causation of civil war are discussed below.

4.1.1 Resource scarcity

The neo-Malthusian thesis attributes the causes of civil war to the pressure of excessive population growth over environmental foundation, which tends to degrade or even deplete it with a far-reaching negative

impact on economy and social fabric and eventually destabilisation of political structure (Myers 1987; Choucri 1986). Homer-Dixon (1995, 1999) argues that the observed civil conflict in the poorest countries is a direct result of environmental degradation that has led to scarcities in natural resources. According to Homer-Dixon (1999) the conflict is caused by the scarcity of natural resources either by driving the elite to “capture” resources at the expense of the poor and/or through its debilitating effect on economic and social innovation or simply through an “ingenuity gap”. In other words this argument suggests that poor countries face poverty and civil war simply because of resource scarcity that inhibits socio-economic innovation.

This neo-Malthusian view has dominated and gained much credence in the field of conflict studies (de Soysa 2000). It is only recently that this thesis attributing the causes of civil war to resource scarcity and “ingenuity gap” has been challenged by contrary evidence that suggests that resource abundance leads to lower economic growth through “Dutch disease”³ (Sachs and Warner 1999). In other words countries with an abundance of natural resources are less innovative than resource-poor countries. Also de Soysa (2000: 125) finds no evidence to support the hypothesis that the countries that are resource-poor (natural capital per capita) and poor in per capita wealth are especially vulnerable to civil war. Though de Soysa (2000) finds strong positive correlation between abundance of mineral resources and civil war, he finds no evidence to suggest that the poor countries with scant renewable resources per capita are likelier to be more conflict-prone than others.

4.1.2 Resource abundance

The nature of contemporary civil wars in Africa has renewed the need to revisit the fundamental question of whether contemporary civil wars are a simple product of *grievances* and resource scarcity or the result of *criminal acquisitive desire* (greed) and has prompted economists to carefully analyse the determinants of civil war. Most recently some economists presented an economic perspective on the causes of civil war that empirically supports the proposition that natural resources motivate greed, which causes civil wars (Collier 2000; Elbadawi and Sambanis 2000; Collier and Hoeffler 1998). Collier (1998) finds that a high proportion of primary goods exports is significantly and robustly related to the incidence of civil war because the availability of natural resources provides incentives for rebel groups to loot and to sustain their activities. This finding was further qualified by de Soysa’s study (2000: 125), which suggests the abundance of mineral wealth, rather than renewable natural resources, is strongly related to the incidence of civil conflict as high stakes associated with controlling mineral wealth are likely to be the cause of conflict.

Collier (2000) challenges the dominant discourse of grievance that imputes the causes of civil war to grievances and argues instead that the true cause of much civil war is the silent force of greed as he finds that the economic variables that proxy greed-motivated rebellion outperform the proxies of grievance-

³ The ‘Dutch disease’ perspective suggests that endogenous innovation or technical change do not occur in countries with abundant natural resources as these communities become dependent on natural resources and fail to innovate not because of scarcity but rather because of abundance that affects the incentive for allocating capital, labour, and innovative energies to other sectors (de Soysa 2000).

motivated rebellion. In other words, the natural resources as pointed out by de Soysa (2000) are seen to act as a “honey pot” that triggers incentives for profit-seeking groups to be involved and initiate violent actions. In short, Collier (2000) subscribes, on the basis of empirical findings, to the view that the causes of contemporary civil wars are a result of criminal acquisitive desire (greed) triggered by natural resources rather than relative deprivation and grievances. Interestingly, as export dependency on primary commodities is an indicator of abundance of natural resources, then Collier’s argument clearly suggests that the resource-rich countries are more likely to experience civil war than resource-poor countries, which implicitly implies and concurs with the “Dutch disease” argument.

The strong assertion by Collier attributing entirely the causes of civil war to greed has been questioned, as his very argument, which is based on abundance of natural resources, is not conclusive as other factors such as “state failure”⁴ emanating from “Dutch disease” are equally behind armed violence. De Soysa (2000: 123) argues that the observed strong positive association between natural resource abundance and incidents of civil war may in fact be capturing the grievance effects generated by the perverse socio-political conditions associated with the distorting effects of reliance on convenient resource streams.

4.1.3 Relative deprivation and grievance

This argument attributing the origins of the contemporary civil war to greed or irrational behaviour is consistent with earlier pseudo-psychological assertions that most or all revolutionaries are deviants or maladjusted (Riezler 1943: 320) and raises again the fundamental psychological question about the generic sources of human aggression. There are basically three distinguishable psychological assumptions about the origins of human aggression: that aggression is solely *instinctive*, that it is solely *learned*, or that it is an innate response activated by frustration – *frustration-aggression* – (Gurr 1970: 31). The instinct theories of aggression, in Gurr’s words, assume that most or all men have within them an autonomous source of aggressive impulses. According to Gurr this assumption has no definitive support and argues that psychodynamic explanations of the “revolutionary personality” may be useful for microanalysis of particular events, but contribute relatively little to general theories of collective actions (Wolfenstein 1967). Gurr also argues that the third assumption, frustration–aggression theory, is consistent with human biological makeup and has substantially more empirical support than theories that assume either that all men have a free-flowing source of destructive energy or that all aggression is imitative and instrumental (Gurr 1970: 33).

Gurr (1970) uses the psychological theory of relative deprivation (RD) to analyse the psychological and societal causes of civil wars or political violence in the context of the frustration-aggression theory. According to Gurr (1970: 13) the primary causal sequence in political violence is first, the development of

⁴ Theories of ‘rentier state’ are based on arguments that suggest that resource abundance, and the revenue streams that it generates, affects the proper development and functioning of state institutions, fueling corruption and leading to perverse subsidisation policies and budgetary mismanagement (de Soysa 2000: 121).

discontent, second, the politicisation of the discontent, and finally, its actualisation in violent action against political objects and actors. The main argument of Gurr is that ‘the greater the intensity and scope of RD, the stronger the relationship between the intensity and scope of normative and utilitarian justifications for political violence and the magnitude of political violence’. Importantly, Gurr observes that in any heterogeneous population, the intensity of RD is greatest with respect to discrepancy affecting economic values, less with respect to security and communality values.

There is, however, no consensus among economists about the effect of social grievance such as inequality and lack of democracy on the risk of civil wars. While some (Collier 2000; Collier and Hoeffler 1998) found no systematic effect of social grievance on the risk of civil war, others (de Soysa 2000; Reno 2000; Elbadawi and Sambanis 2000; Acemoglu and Robinson 1999) found considerable effect of failed political institutions and high levels of inequality on the risk of civil war. De Soysa (2000: 125) in particular argues that societal and political degradation may lead to conflict if the abundance of mineral wealth also leads to “Dutch disease” and perpetuates bad governance, capricious political processes, underdevelopment, and ultimately grievance.

4.1.4 Failure of state: the role of the elite

Some researchers (Ali and Matthews 1999) emphasise the role of political elites and argue that the underlying causes of civil war such as ethnic divisions, economic disparities and weak state institutions are not alone sufficient to explain the causes of civil wars as the actions and policies of political elites can either exacerbate or mitigate the potential conflicts. Brown (1993) identifies a gap in many studies on causation of civil wars as they have failed to recognise the important role of “bad leaders” and argues that the vulnerable elites engaged in power struggles are at the heart of many internal conflicts. In their struggle to retain powers, the political elites will pursue policies that will trample on the economic, cultural, or political rights of the marginalised (Hampson and Malone 2002).

Keen (2000) attributes the view of portraying civil war as irrational behaviour to visible rigidity in some academic disciplines such as economics and political science, which fail to analyse messy phenomena like contemporary civil war within their ordered and predictable orbit of analysis. Keen (1998) in particular recognises the need to look at civil wars in a holistic way and challenges the analyses that focus on destruction, over-population, environmental decline and religious or ethnic division, as they risk ignoring the underpinning political and economic roots of civil wars. Though Keen (1998) highlights the economic functions of violence in civil wars, as most contemporary civil wars persist partly because of rational economic calculations, he does not argue that all civil wars are dominated by economic agendas.

Keen (1998: 12) approaches the economic causes of civil conflict in a more comprehensive way by distinguishing two forms of economic violence: “top-down”, which is mobilised by political leaders and entrepreneurs; and “bottom-up”, where violence is actively embraced by “ordinary” people. Keen (1998) further argues, contrary to Collier’s (2000) position, that much of the violence in contemporary conflicts has been initiated not by rebels seeking to transform the state, but by the elite trying to deflect political threats by inciting violence, often along ethnic lines. According to Keen (2000) any pressure for

democratisation, combined with conditions of economic austerity that resulted primarily from the elite amassing personal wealth, will generate conditions for major “elite backlashes”. As the state becomes unable to provide security and basic services including maintenance of its army, the elites will try to privatise violence and to harness economic agenda within civil society in order to fight any insurrection on the cheap (Keen 2000). De Waal (1996: 6) takes this argument further and highlights that the economic crisis in Africa has had a profound impact on military establishments as governments are now unable to sustain and control armies, which then turn to local sources of provisioning through counterinsurgency warfare.

According to de Waal (1996), as a result of the loss of patronage by Great Power sponsors and coupled with economic decline and the inability of governments to provide resources to the army, new forms of economic activity were developed that were often based on predatory warfare on the population of their own country. These new means adopted by governments at war with their citizens to maintain and supply their fighting forces include new military doctrines such as counterinsurgency warfare and militia strategy as a means of waging war opportunistically (de Waal 1996). These new forms of war economy often involve the use of exemplary terror and deliberate exacerbation of ethnic rivalries by using proxy forces and sub-contracting part of war to tribal militia that are gradually developing what de Waal (1996) terms as “pathological violence”. Everywhere in Africa, civil unrest provides the occasion for seizure of assets from civilian non-combatants as a form of predatory capital accumulation by soldiers (Swift 1996). The development of these new forms of war economy has indeed solved the problem of how to maintain and motivate conventional and unconventional armed forces.

Though economists are divided on the role of the state in causing civil war, some (Acemoglu and Robinson 1999; Reno 2000; de Soysa 2000; Azam 2001; Reynal-Querol 2001; Sambamis 2000) find that the more inclusive the political system, the lower the probability of rebellion because of the high cost of rebellion. Reno (2000) shows how the elite in resource-rich African countries manipulated and restricted the state institutions that resulted in the process of creating “shadow states”, which eventually led to conflict. Azam (2001) argues that violent conflict must be thought about as a failure of the state to perform some of its fundamental tasks. Sambamis (2000) attributes the causes of ethnic civil wars to political grievances rather than to economic grievances.

4.1.5 Religion and ethnicity

There are competing viewpoints about the role of ethnicity and culture as causes of civil war. Some argue that violent conflicts are cultural phenomena like other social processes (Hendrickson, Mearns and Armon 1996) while the majority of researchers across all disciplines refute any claim that attributes the causes of civil wars to religion and ethnicity. There is, however, growing empirical evidence that suggests the contrary and finds positive association between the incidents of civil wars and religious polarisation and ethnic diversity (Huntington 1996; Annet 1999; Mauro 1995; Reynal-Querol 2001; Ellingsen 2000).

The popular model of Huntington (1996), about the cultural fragmentation of the world based on the argument that the new reality of the world is defined not by ideological factors but rather by cultural

factors, triggered heated debate across all disciplines. Huntington (1996) argues that as conflicts will be primarily caused by cultural differences they will be more difficult to solve as their characteristics are less mutable than political and economic differences. Reynal-Querol (2001) shows empirically that religious divisions are more important than natural resources in explaining the incidence of civil wars because of the exclusivity, rigidity and uncompromising characteristics of religion.

As a result of apparent difficulty in solving ethnic civil wars, some economists (Kaufmann 1996; Mearsheimer and Evera 1996; Horowitz 1985) have developed “partition theory”,⁵ which elaborates a set of hypotheses on the usefulness of partition as a solution to ethnic civil war as a way of restoring civil politics. The partition theory is grounded in a “security dilemma”: the dilemma arises when one community faces another distrustful one and one community’s actions to increase its own security are perceived as threatening the security of others, and this dynamic is intensified when the opponents belong to different ethnic groups (Kaufmann 1996; Posen 1993). Horowitz (1985), a prominent theorist, argues that if the constraints on the policy innovation are many, then it is a mistake to seek accommodation among the antagonists to live together in a heterogeneous state and it is better for them to live apart in more than one homogenous state.

This theory of partition has been shaping scholarly and policy opinion with its intuitive appeal on how to end ethnic civil war. However, it has been challenged on the grounds that partition theorists have not provided a concrete proof that justifies partition as the only viable and credible solution to end ethnic civil wars as well as outperforming other war outcomes (Sambanis 2000: 2). Sambanis (2000) shows with empirical evidence that partition does not reduce the risk of war and it is instead positively associated with recurrence of ethnic wars. Collier (1998) refutes the belief that ethnic diversity increases the risk of civil war and argues instead that beyond a quite low level of diversity, increased ethnic diversity reduces the risk of violence and even recommends the need to change the current state borders so as to increase) the ethnic diversity. Collier, Elbadawi and Sambanis (2000) show that contrary to popular belief the relatively higher incidence of civil wars in Africa is not due to its ethnic and religious diversity, but rather to high levels of poverty and especially to failed political institutions. It is generally argued also that ethnicity and religion are shaped by conflict rather than shaping it (Keen 2000; Turton 1997; Campbell 1998).

4.1.6 What then causes civil wars?

It is apparent from the above views about the causes of civil war that civil war is a context-specific complex phenomenon that is extremely difficult to generalise about or to be analysed either by one discipline or to be attributed to one or few factors in isolation of other factors. The divergent views about the causes of civil war could be attributed mainly to three factors: level of analysis (macro, meso or micro),

⁵ According to ‘partition theorists’ ethnic civil wars are characterised by strong and fixed identities, by weak ideological and strong religious overtones, by the dissemination of tales of atrocities to strengthen mobilisation, and by easy recognition of identities and the existence of only limited scope for individual choice. As such, once war starts all members of the group must be mobilised because other ethnic groups will inevitably recognise them as enemies and such inescapable destiny reinforces the dynamic of war and must lead to partition as the only feasible option for resolving such a conflict (Sambanis 2000: 2).

period of analysis (pre-civil war vs. during civil war) and subjective value attached to the desired outcome for the states at war with themselves. Most researchers on the causation of civil war tend to focus on meso-factors during and when the civil war erupted and their analysis may run the risk of ascribing as causes the conditions during civil war rather than pre-war conditions .

The few researchers that analysed the pre-war situation tend to unambiguously impute the causes of civil war to socio-economic and political grievances that are generated by the unpopular policies of the elite and their “shadow states”. In the midst of the conduct of civil war, it is not surprising to observe irrational behaviour, economic agenda and greed dominating this critical period as a way of sustaining the activities of the fighting parties through privatisation of violence and counterinsurgency and insurgency warfare. The arguments of natural resources, religion and ethnicity are relevant during civil war as magnifying and mobilising factors that are used by the warring parties for the sustenance of their war operations as shown in Figure 4.1. Cliffe and Luckham (2000) categorise factors causing and sustaining civil wars into production and reproduction factors respectively.

It is argued as shown in Figure 4.1 that a comprehensive understanding of the causation of civil wars requires a consideration of three levels (global, national and community). Most studies on conflicts tend to place more emphasis on internal factors (national and community) than external factors (global dimension). Colonial legacy, debt burden, structural adjustments and economic globalisation are hardly neutral in the analysis of civil wars causation. Though it has generally been recognised that structural adjustments, debt burden and economic globalisation have profound effects on distributive justice, economic uncertainty and state weaknesses (Moore and Putzel 1999), they are hardly featured in the analysis of civil wars. Kaldor (1999) and Duffield (2000) emphasise the global dimension, particularly political, economic, military and cultural global interconnectedness, in understanding civil wars. It is argued that these global factors contribute to the causation of civil war either by weakening the states through macro-economic shocks or by indirectly contributing in creating horizontal inequality or socio-economic grievances as shown in Figure 4.1. In the midst of the civil war, the initiating global factors such as structural adjustments and debt burden persist and magnify further civil wars. Additional global factors such as arms sales and the role of multinational corporations in extracting natural resources of countries at war with their citizens become crucially important in magnifying, sustaining and funding civil wars as shown in Figure 4.1.

It is argued that contemporary civil wars are largely triggered and initiated by various factors at global, national and community levels and persist as well through greed and economic agenda at macro, meso and micro levels as shown in Figure 4.1. In the context of Africa, understanding the manner with which insurgency and counterinsurgency have been fought is relatively more important than the initial triggers of the civil wars, particularly to the rural livelihoods. While global and national factors that generate social grievances and horizontal inequality at the community level tend to cause macro civil wars at national level, the greed and economic agenda during civil war tend to reproduce micro civil wars such as counterinsurgency warfare, which sustains the macro civil wars at the national level. The arguments presented by Swift (1996), de Waal (1996) and Keen (2000) clearly show that there is a strong causative

relationship between household assets and the occurrence of civil wars, particularly counterinsurgency warfare. Keen (1994) generally observes in the context of south Sudan that it is the wealth of the Dinka community and not lack of it that makes them exposed and susceptible to counterinsurgency warfare.

Figure 4.1 The aetiology of civil war

Level	Pre-war (Production factors)	During war (Reproduction factors)	Post-war (Desired outcome)
<i>Global (macro)</i>	Colonial lagacy	Politics of arms sales	Global values
	Cold/post-cold war	Structural adjustments	(Democracy, human rights and global citizen)
<i>National (meso)</i>	Structural adjustments	Dept burden	Unity
	Economic globalisation	Emergency relief	
<i>Community (micro)</i>	Multinational corporations	Multinational corporations	Partition
	Dept burden		
<i>Community (micro)</i>	Failure of ruling elite	Extractive development of natural resources	Partition
	Shadow states	Ethnic diversity	
<i>Community (micro)</i>	Socio-economic crisis	Religious diversity	Partition
	Extractive development	Assets transfers	
<i>Community (micro)</i>	Horizontal inequality	Privetisation of violence	Partition
	Socio-economic greivences	Counterinsurgency warfare	
<i>Community (micro)</i>	Marginalisation of minorities	Proliferation of small arms	Partition
	Legacies of earlier civil war/violence	Warlords behaviours	
<i>Community (micro)</i>		Combatants survival strategies	Partition
		Ethnic/religious cleansing	
<i>Community (micro)</i>		Insergency warfare	Partition

4.2 Risk attitudes, diversification and civil war

Risk and uncertainty and human reactions to them have played an important role in shaping and explaining the values of economic institutions and systems in industrial countries. Arrow (1971) developed a theory of risk aversion that shows the tendency of individuals to display aversion to the taking of risks. Such risk attitudes guarantee the optimal allocation of resources and the emergence of insurance and stock markets that permit a reduction in the social amount of risk-bearing. The risk attitude is crucially

important as it is related to rational behaviour and efficient management of assets particularly at household level.

Despite apparent recognition of the prevalence of risk aversion attitudes in industrial countries, there are conflicting views about risk attitudes in low-income economies. Some experimental studies suggest that farmers in low-income economies are burdened by extreme aversion to risk, while others (Binswanger 1980; Grisley 1980; Sillers 1980; Walker 1980) found moderate risk aversion and some even found evidence of risk neutrality. Some studies in development economics (Moscardi and de Janvry 1977 and Hazell 1982) measure risk preference in low-income economies by using information on allocation decisions and generally support the idea of moderate risk aversion, although Antle (1987) found evidence of risk neutrality. These conflicting views about risk attitudes clearly indicate disagreement over rational behaviour and efficient assets management of self-provisioning households in low-income economies.

The vast and growing literature on “coping strategies” as short-term household responses to the adverse effects of drought since the 1980s has clearly shown evidence of rational behaviour and the prevalence of moderate risk aversion attitude among rural households in low-income economies. Recent studies have also assessed household longitudinal responses to economic shocks in the urban context of low-income countries and found that households exhibit not only rational behaviour in their assets management but are also managers of complex asset portfolio (Moser 1998). These findings allow linking the observed level of vulnerability in low-income economies with the level of assets ownership and management, rather than with irrational behaviour of households.

Though there is now agreement and consensus over the prevalence of moderate risk aversion among households exposed to drought and economic shocks, there is little evidence about the risk attitudes of households exposed to the risk of civil wars. In lieu of empirical evidence on household response to the adverse effects of civil war, there is a growing perception that the very nature of civil war, particularly counterinsurgency warfare, burdens households with extreme risk aversion attitudes that will inhibit any rational behaviour and proactive assets management. It is questionable whether such perception is valid, as there is limited conceptualisation and application of risk theory to the context of civil war particularly at household level. As our earlier discussion about the causes of civil war shows that civil wars are caused by grievances and sustained by greed, it could be argued that the nature of counterinsurgency warfare as caused by greed will make some households more risk averse and others less risk averse.

Also, the relationship between assets and attitudes towards risk in fairly predictable risk contexts such as drought and economic shocks has not been conclusive in most empirical studies in low-income environments. Previous studies of risk aversion (Binswanger 1981; Binswanger and Sillers 1983) suggest that neither wealth nor income had a significant effect on observed choices of risk aversion and reject the hypothesis of asset integration (i.e. asset holdings do not affect risk attitudes). The failure of asset integration suggests that individuals make risky decisions on the basis of the gains and losses implied by the outcomes of each choice, and that their pure risk preferences are relatively insensitive to the initial wealth states from which they form their decisions (Binswanger and Sillers 1983: 9). Binswanger and Sillers (1983: 18) also note that farmers in low-income economies are risk averse and that risk aversion

may not vary greatly between different cultural or agroclimatic environments, nor be very sensitive to variations in wealth, and differential assets portfolio diversification can only be explained by differences in riskiness rather than differences in risk aversion.

Recent studies (Rosenzweig and Binswanger 1993), however, support the hypothesis that the composition of asset portfolios is significantly influenced by farmers' aversion to risk, by their wealth and by the degree of covariate risks. Dercon (1993: 1) finds that if liquid asset holdings are large, providing a buffer for consumption shortfalls, then households will be more willing to take up high-risk activities. Moser (1996) also notes that the greater the risk and uncertainty, the more households diversify their assets to prevent assets erosion. Alderman and Paxson (1992) observe that the degree of risk aversion may vary across households, that risk aversion declines with wealth and that poor households will be less willing to bear risk, even if they have risk preferences identical to those of wealthier households. Siegel and Alwang (1999: 23) argue that assets and risk are closely linked because risk is transmitted through a household's asset portfolio, and assets are allocated through diversification as a primary household response to manage risk (Reardon 1997; Ellis 1998).

The observation that risk aversion declines with wealth may not be relevant in the context of civil war and, on the contrary, risk aversion may even increase with asset ownership as household assets are immediate targets of counterinsurgency warfare. Though civil war, like other shocks, is transmitted through assets, it is sustained paradoxically by greed through counterinsurgency warfare that targets households and community's assets as shown in Figure 3.1. Also the risk-assets diversification argument may not be valid in the context of civil war particularly for some livelihood activities such as livestock management and crops production. The attributes of livestock, such as a good store of wealth, buffer stock, a social status symbol, mobility and production of basic consumption needs such as milk and meat, provide a comprehensive and ideal set of sources of livelihood that may limit livestock diversification during civil war.

4.3 Social capital and civil war

Social assets (networks, trusts, kinship and ties) provide informal insurance arrangements and an important risk management strategies option as households widen their kinship group through assistance or marriage before the occurrence of risk events (ex ante) or expected assistance contingent on the occurrence of certain risk events (ex post). The effectiveness of social assets in a fairly predictable risk context such as drought in low-income economies has also divided opinion among researchers. Some studies (Antle 1987) conclude that farmers cannot insure against any risk ex ante and cannot perform consumption smoothing ex post. Other studies (Rosenzweig 1988; Rosenzweig and Stark 1989) suggest, however, that rural agents are successful in insuring against all non-covariate risk through a variety of formal and informal mechanisms that contribute to consumption smoothing ex post. Recent evidence (Alderman and Paxson 1992; Dercon 1993; Rosenzweig and Binswanger 1993; Moser 1996) suggests that households in low-income environments reflect uninsured risk in ex-ante production decisions and adopt a variety of insurance arrangements to smooth consumption ex post. Though households in low-income

countries cannot fully insure their consumption against income fluctuations because of problems of moral hazard, information asymmetries and deficient ability to enforce contracts, it has generally been recognised that they do mitigate risk through informal insurance arrangements.

Some economists (Popkin 1979) are critical of the “moral economists” for overstating the value of indigenous institutions in providing formal insurance arrangements. Coate and Ravallion (1993) show evidence that suggests the traditional risk-sharing arrangements may well break down in times of stress. Scott (1976) emphasises that village redistribution in South-East Asia worked unevenly and, even at its best, produced no egalitarian utopia. Davies (1996) also argues that the “moral economy” is not necessarily very “moral” or “welfarist”. Davies criticises the assumption that the moral economy provides a collective safety net in times of stress, when in fact such relationships can be both extractive and exploitative, particularly in periods of acute stress.

In the context of civil war, it is generally argued that the upsurge of civil wars in Africa has a considerable negative impact on the socio-economic structures of the rural communities, particularly the apparent weakening or even breakdown of organised society. This breakdown of organised society in much of Africa lends itself to a description of Africa as a doomed continent with a degenerative social disease that threatens to infect the rest of the world (Kaplan 1994). There is a general perception that the civil wars in Africa have greatly disrupted the social assets that make them ineffective to provide any informal insurance arrangements during civil war (Swift 1993; de Waal 1993). Swift (1996) notes that social capital as one of the bases for survival in African rural societies is being deliberately targeted by counterinsurgency warfare and becomes one of the first casualties of civil war and its destruction or absence makes civil war even more likely.

It is an apparent perception that the relation between social capital and civil war is an inverse sort of relationship as the concept of social capital emphasises co-operation, which downplays the positive role that civil war can play in reducing socio-economic grievances that usually trigger civil wars. As the earlier discussion about the origins of civil war clearly indicates that political violence is less about social breakdown than the creation of new forms of political economic relation (Duffield 2000; Keen 2000), such generalisation of the inverse relationship between social capital and civil war is too simplistic as this relationship is complex and context specific. The nature of some types of counterinsurgency warfare may strengthen social capital of the communities exposed to such risk as it might instead encourage the community to adopt a relevant social strategy to collectively mitigate the adverse effects of such risk. Goodhand, Hulme and Lewer (2000: 390), on the basis of empirical analysis of several war-affected communities in Sri Lanka, question the belief that violent conflict inevitably erodes social capital.

4.4 Vulnerability and civil war

Risk is more associated with vulnerability⁶ as a dynamic concept than to poverty as a static concept. Poverty tends to be an ex-post state of being while vulnerability is both an ex-post and an ex- ante state associated with the probability of falling into a state of destitution (Siegel and Alwang 1999). The outcome of risk management strategies is determined by the level of resilience⁷, susceptibility⁸, sensitivity⁹ and sustainability that increasingly depend on the initial household level of assets portfolio.

There is a common consensus in the risk literature that the poor are more risk averse than the non-poor and are more susceptible to risk. This is because poor households have fewer tools (assets) at their disposal to defend against risky events and thus suffer proportionally greater welfare losses for given levels of risk. Moser (1998) argues that vulnerability is closely linked to asset ownership and the more assets people have, the less vulnerable they are. She then develops an “asset-vulnerability” analysis framework to assess the longitudinal household responses to economic shocks in the urban contexts of low-income countries. Siegel and Alwang (1999) have also developed an “asset-based” approach to risk management, which focuses on the vulnerability of poor rural households who have limited capabilities (assets) to manage risk and often resort to strategies that can lead to a vicious cycle of poverty.

Poor households during risk management are less resilient as their ability to resist downward movement in well-being will be weakened and more sensitive as their asset base will be depleted following adjustments to risk (Ellis 1998). Non-poor households may be able to allocate their resources efficiently and become more resilient and less sensitive during the risk management process as they have adequate tools to buffer their consumption against any shortfalls as a result of the adverse effects of risk.

⁶ Glewwe and Hall (1998) divide vulnerability into two types: vulnerability associated with specific shocks and vulnerability related to changes in socio-economic conditions (market-induced vulnerability). Others (Chambers 1989; Davies 1996) emphasise external threats and internal household capabilities and define vulnerability as a high degree of exposure to risk, shocks and stress; and proneness to food insecurity. According to Siegel and Alwang (1999: 65) vulnerability is generally defined in terms of the expected value of welfare $E(x_{it+1})$ output in relation to poverty or minimum level of survival (x^*) given the state of nature in the initial period that includes conditioning variables (x_{it}) that are specific to households such as assets (A_{it}) and exogenous variables or shocks such as rainfall, prices or civil war (Z_t). Thus a household is defined as vulnerable if $E(x_{it+1}) \leq x^*$. Generally in an axiomatic approach, the probability of being vulnerable or poor is defined as $\Pr\{x_{it+1} \leq x^* \mid x_{it}, A_{it}, Z_t\}$ and given the distribution of x_i ($f(x_i)$), then probability of being vulnerable (poor) is defined as:

$$\Pr \{.\} = \int_0^{x^*} f(x_i) dx = v_{it} = \text{Vulnerability index of household } i.$$

On the basis of this definition of vulnerability, households with more assets are less likely to experience welfare loss over time and less likely to be vulnerable. It is apparent also from this definition of vulnerability that the probability of risky events such as rainfall and civil war plays important role in determining the level of vulnerability. In the case of civil war particularly counterinsurgency warfare that is primarily triggered by household assets, it makes households with more assets more likely to experience welfare loss and subsequently more vulnerable.

⁷ Resilience is defined as the household’s ability to resist downward movement in well-being (Moser and Holland 1997; Davies 1996).

⁸ Susceptibility is defined as the probability that a household will experience a welfare loss from a given risk event (Siegel and Alwang 1999).

⁹ Sensitivity is the extent to which the household’s asset base is prone to depletion following adjustments to risk (Ellis 1998; Davies 1996).

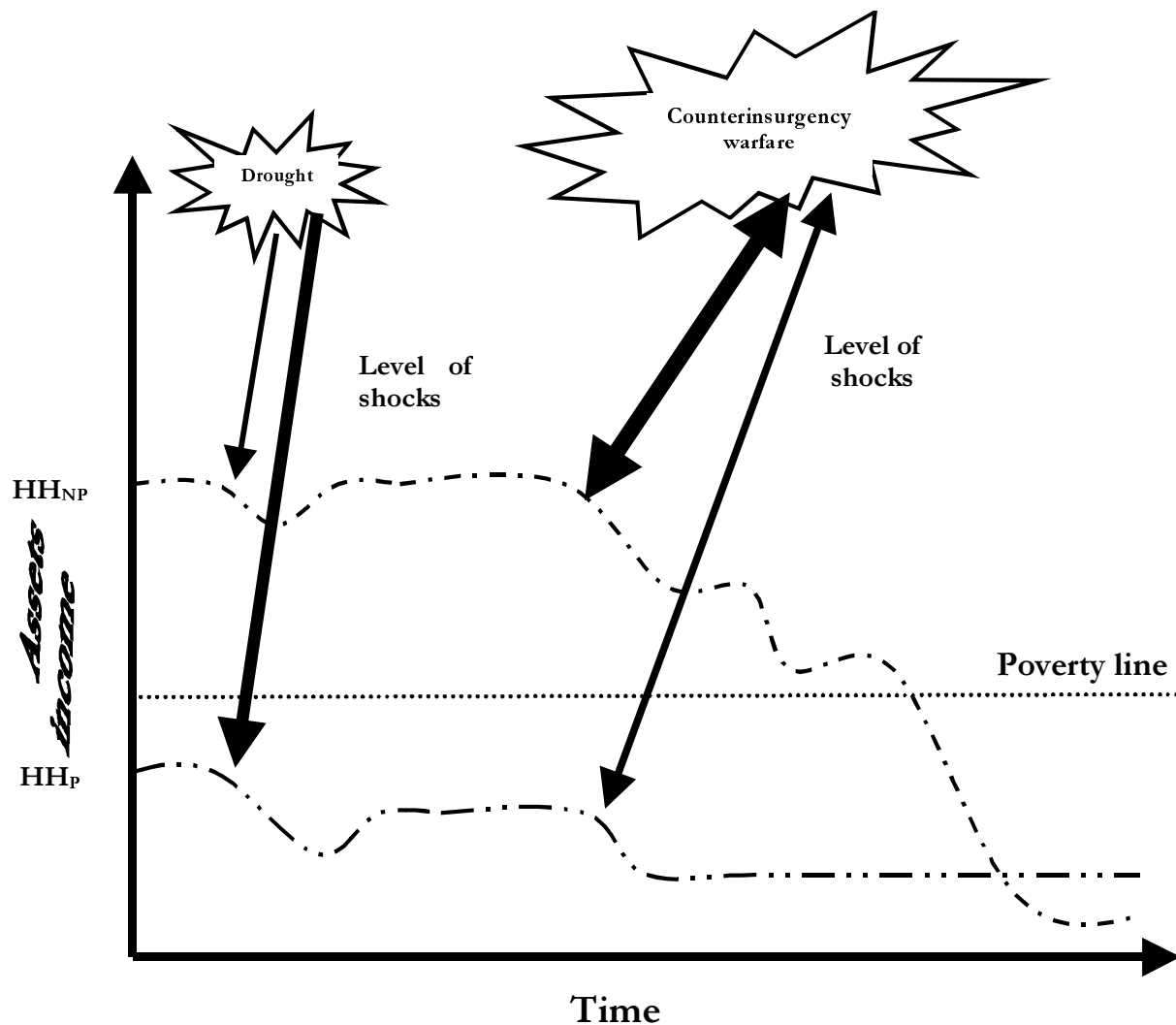
Devereux (1999: 9) attributes differential resilience across households to relative wealth and access to alternative income sources.

The increasing vulnerability of poor households during risk management stems from the ways with which risks interact with assets as risks are transmitted to households through their assets. Besides the direct impact of risks on the value and productivity of assets, households tend to reallocate their assets in response to risk with far-reaching longer-term impact on their vulnerability (Siegel and Alwang 1999). It is also argued that poor households tend to be more risk averse than non-poor and less efficient in resources allocation and pay higher actual outlays and opportunity costs during risk management (Siegel and Alwang 1999; Zimmerman and Carter 1996; Morduch 1995). Also poor households tend to adopt risk management strategies that concentrate in lower risk and lower return assets, which can lead to a poverty trap and exacerbate asset and income inequality (Siegel and Alwang 1999: 5).

This argument of linking vulnerability to the initial asset base of a household is more relevant to risk events such as drought or economic shocks than to the context of counterinsurgency warfare. As discussed earlier, the assets are not only the immediate targets of the counterinsurgency warfare but are even one of the causal factors for the occurrence of civil war. The intensity and occurrence of civil war unlike drought are paradoxically conditioned and triggered by wealth and assets and make non-poor households more susceptible to counterinsurgency warfare than poor households. This may result in a level of risk outcomes that is more or less similar across households differentiated by initial asset base as shown in Figure 4.2. It is apparent from Figure 4.2 that the non-poor household (HH_{NP}) is more able to sustain the shock of drought than the poor household (HH_P) but it becomes more vulnerable and susceptible to the recurrent shocks of counterinsurgency warfare than the poor household (HH_P) as such shocks are generated by household assets.

This phenomenon of counterinsurgency warfare and its resultant “asset transfer economy” in south Sudan has been recognised by some researchers (de Waal 1993; Duffield 1993; Keen 1994; Deng, L. 1999). Some even generally concluded (Keen 1994; Duffield 1993) without concrete empirical study that in such a context of “asset transfer economy” vulnerability is associated more with wealth than poverty. This observation, however, of associating vulnerability to wealth rather than poverty, besides lacking rigorous empirical evidence, tends to make a general statement about vulnerability at community level rather than at household level.

Figure 4.2 Assets, vulnerability and shocks



4.5 Famine and civil war

Most famine theories demographic, entitlement and complex political emergencies – attribute the causes of famine to the initial shocks such as natural disasters, economic crisis and civil war to which the communities or households have been exposed. The conceptualisation of famine causation in the context of risk events or shocks resulted in seeing famine initially as an “act of God” in terms of ecological shock or as “laws of nature” in terms of excessive population growth and recently it is increasingly seen as “economic crisis” in terms of entitlement failure and as an “act of man” in terms of government policies and civil war (Devereux 2001). The emerging new terms of “political famines” or “war famines” indicate a disciplinary-biased approach to famine analysis as a product of a failure of political accountability at all levels or civil war (de Waal 1997). Devereux (2001: 121) argues that war, unlike other explanations, can be seen as a comprehensive explanation of a certain type of famine because of its multiple effects on all elements of the food system and he generally remarks that in political famines the rich are as vulnerable as the poor.

The explanation of famine causation in terms of primary triggers and shocks is rather simplistic as it fails to recognise the household proactive assets management strategies that are aimed at reducing the anticipated and actual adverse effects of these shocks and risk events. The available famine theories fail to see the occurrence of famine as a result of a failure of household risk management strategies. According to the risk management framework shown in Figure 3.1, the level of vulnerability is the outcome of household risk management strategies that will either improve household level of resilience or will lead to a high level of vulnerability or even failure of household risk management strategies in terms of individual mortality or household destitution. Though the level of household vulnerability is related to risk events and shocks, risk events, with the exception of civil war, are transmitted through assets and household assets management strategies that will determine the level of vulnerability and risk management outcome rather than shocks *per se*. Even a risk event such as civil war is not entirely transmitted directly as a large proportion of it is transmitted through household assets. These distinctive characteristics of civil war, particularly counterinsurgency warfare, of being triggered by assets and having a direct effect on the level of household vulnerability may lend itself, as mentioned by Devereux (2001), to a comprehensive explanation of famine in a specific rather than in a general context.

5 Causes of civil war: the case of Sudan

Sudan¹⁰ is geographically the largest country in Africa with an area of about 2.5 million sq. km (just under approx. 1 million sq. miles). It has an estimated population of about 28 million, divided into about 56 ethnic groups and more than 595 sub-ethnic groups that speak more than 115 languages. Sudan is justifiably considered as a microcosm of Africa because of its central location, reflecting within its borders all the racial, ethnic, religious and cultural diversity of the continent.

Sudan has been characterised by a civil war that has been perceived as a cleavage between the dominant Islamic and Arabised north – two thirds of the land and population of the country – and the subordinated but potentially richer African south, which is predominately traditional in its religious beliefs. Since independence in 1956, Sudan has been at war with itself and wasted about 36 years of its independence in two major civil wars (1955–1972, 1982–the present) that resulted in a death toll of more than 2 million and massive internal displacement and exodus to neighbouring and other foreign countries.

A comprehensive understanding of the causes and origins of the civil war in Sudan is evidently crucial, as the ultimate sustainable solution will largely depend on it. Despite the fact that Sudan has been at war with itself for more than 36 years since its independence, the debate on the genesis and causes of the recurrent civil wars is divisive and far from settled. This lack of consensus and good understanding about the causes of civil wars largely explains the stalemate in the efforts of reaching a comprehensive peace in the country. Generally most northern Sudanese, particularly the ruling elite, perceive the civil war as a southern problem that is caused by external forces and reject the claim of race and religion as the

¹⁰ The name Sudan is derived from the Arabic phrase *Bilad al-Sudan*, which means ‘Land of the Blacks’ and refers to all the African groups cutting across the continent below the Sahara.

causes of the civil war. The majority of southern Sudanese, including their elite, see the causes of the civil war well rooted in ethnicity and religion. There is unresolved debate about whether economic factors such as horizontal inequalities, particularly the economic neglect and extractive development of natural resources in the south, have caused southerners to rise and fight to end their economic deprivation. The various arguments of the causes of civil wars in Sudan are discussed below.

5.1 Psychological makeup: ethnicity and religion

The historical cumulative experience of the Sudanese people since their first contact and interaction with the outside world produces contrasting and seemingly incompatible identities in the northern and southern parts of the country. While identity in northern Sudan is forged around Arab-Islamic lines, with an apparent drive of assimilating the large majority non-Arab population, southern identity is formed around African lines with continuous resistance to Arab-Islamic assimilation. One leading Sudanese scholar, Francis M. Deng, describes the anomalies of the identity conflict in Sudan as a national identity crisis which is the root cause of the civil war that has raged intermittently since independence and spearheads the argument attributing the root causes of the civil war in Sudan to religion, race and ethnicity (Deng, F. 1995)..

According to Deng, F. (1995) the crisis in Sudan is a result of the fact that the politically dominant Arabised northern Sudanese, the products of Arab–African genetic mixing and a minority in the country, see themselves primarily as Arab, deny the apparent and dominant African element in them, and seek to impose their self-perceived Arab-Islamic identity on the overwhelming majority of non-Arab communities. The Arabised northern Sudanese came about as a result of intermarriage of the indigenous African tribes with the incoming Arab traders and such interaction was heightened by the advent of Islam in the seventh century, which produced a genetically mixed African–Arab racial and cultural hybrid (Deng, F. 1995). Unlike other African countries that had a similar experience of intermarriage with Arabs, the northern Sudanese deny the apparent and visible African elements in their skin and physical features and see themselves primarily as Arabs and resist any attempt by the majority non-Arab population to identify the country with black Africa.

A northern Sudanese scholar and statesman once remarked that Sudan should change its name because it is reminiscent of a denigrated racial label.¹¹ The Arabised northern Sudanese generally associate African features with the negroid race and see it as the mother race of slaves, inferior and demeaned, while they consider their perceived Arab-Islamic features as superior and a source of pride. As a result of this psychological makeup, the Arabised northern Sudanese tend to see southern Sudanese and non-Arab communities in general as inferior and it was a common practice of northern Sudanese to call them until recently “slaves”, *abeed*,¹² to their faces.

¹¹ Professor Muddathir Abd Al-Rahim in a keynote address to the Juba conference on the role of the south in the Sudanese Nationalist Movement, February 1985, adapted from Deng, F. (1995: 3).

¹² The term *abid* (plural *abeed*) is an Arabic word that means ‘slave’, which is equivalent of “nigger” in American usage.

Contrary to the north, southerners see themselves as unambiguously African and advocate secularism as their basis for national identity and nation building. The African identity in its racial and cultural composition in southern Sudan has withstood Arab-Islamic incursions from as early as the hostile encounters of the slave trade that peaked in the nineteenth century (Deng, F. 1995). The Arab slaves traders who succeeded in penetrating southern Sudan were not interested in Arabising and Islamising the southerners as that would have taken their prey from *dar al-harb* (land of war) and placed them in the category of *dar al-Islam* (land of Islam), thereby protecting them from slavery (Deng, F. 1995: 10).

The present united Sudan came about as a result of colonial intervention, the Anglo-Egyptian condominium (1899–1955), which suddenly reversed its initial policy of encouraging separate administration for the south and north with the option that the south might eventually be annexed to one of the East African colonies. Having been given political power by the colonial power after independence, the successive governments of the Arabised north have been pursuing policies aiming at dominating, Arabising and Islamising the south and such policies have been persistently resisted by the south. Deng argues that the more this imposed Arab-Islamic nationalistic perception is challenged or even questioned by the non-Arab majority, the more it is coercively asserted in the country by the state, with moral and material backing from the Arab Muslim world. Deng is convinced that the civil war in Sudan is essentially triggered by ethnicity and religion, which determine one's place in society and provide the basis for allocation in the distribution of power and resources. He emphasises that the civil war in Sudan is not merely one of resistance to the imposition of Islam, but also a racial or ethnic struggle against domination by people claiming to be racially and culturally Arab and superior to the black Africans, with whom they do not identify.

This argument linking religion and ethnicity to the civil war in Sudan is related to Islam as a religion, particularly its ideological orientation and practice. Islam as a religion is a way of life (culture and norms) for individual and family, law (*shari'a*)¹³ for the state and the basis for social services provision, economic activities and foreign relations for the government. This clearly shows that Islam is unseverable from politics, economics, culture and constitution and no Muslim government will dare to separate the secular from the religious side of life. The intertwined relation between Arabism as a racial, cultural and ethnic phenomenon and Islam lies in the fact that Islam drives most of its ideological orientation and practice from Arab culture. The ideological orientation and practice of Islam make it pivotal in defining the identity and status of individuals and groups as well as determining who gets what from the system. While this view attributing civil war in Sudan to ethnicity and religion is generally embraced by almost all southerners, the majority of northern elites reject such argument, with some expressing scepticism about the imputation of the civil war to Islam generally rather than to the extreme fundamentalist Muslims.

This perceived Arab-Islamic identity has been effectively used by the northern ruling elite to marginalise and restrict the participation of the rural community and southerners in particular in political,

¹³ *Shari'a* is Islamic Law, which prescribes the righteous path for the Muslim community in public and private affairs.

economic and social life of the country, which resulted in deep-seated grievances and deprivation. Religion and ethnicity are not the prime triggers of the civil war in Sudan *per se* but rather they are magnifying factors that are effectively used to conduct war. There are examples of community groups with different ethnicity and religion who have been able to live peacefully alongside each other for long periods and there are also examples of similar community groups who failed to coexist peacefully (Keen 2000). Ethnic, religious and cultural diversity is inevitable in any society and the way societies manage such diversity determines the level of peaceful coexistence or even conflict. As such, Sudan has been failed not by its ethnic, religious and cultural diversity but rather by its ruling northern elite as they wrongly opted to impose the perceived Arab-Islamic national identity paradigm to unite the country.

5.2 The role of elites: Sudan failed by its ruling elite

Some Sudanese scholars impute the causes of civil war to the failure of the ruling northern elite. The leading proponent of this view is Khalid.¹⁴ According to Khalid (1990), the main objective of the northern elite before independence and after their inheritance of the reins of power was the construction of a united Sudan with Arabo-Islamism as the sole determinant for national unity. The ruling northern elite saw the religious and cultural diversity of the country as a threat to unity and strove to eliminate it as such diversity was perceived as tantamount to racio-cultural hegemony. This Arab-Islamic paradigm, besides being both northern-based and northern-biased, excluded the rural majority in the peripheries and failed to see the concept of democracy as a meeting point which accommodates all cultures, religions and school of thought. According to Khalid (1990), it is this paradigm adopted by the ruling northern elite that has haunted and continues to haunt Sudan.

This view of the role of the ruling elite in causing civil war is consistent with an earlier argument by Keen (1998) that much of the violence in contemporary conflicts has been initiated not by rebels seeking to transform the state, but by elites trying to defend vested interests. As many of these elites have been those who gained ascendancy in postcolonial states, they view any pressure for democratisation as a threat to their authority and their repressive actions to suppress such pressure may lead to outright rebellion (Keen 2000: 24). Consistent with this argument, Garang (1987) diagnoses the problem of civil war in Sudan as a problem of the northern ruling elite, contrary to the dominant perception that it is a problem of the south. This view of attributing the causes of civil war to the failure of the ruling elite, which created grievances of all marginalised communities including southerners, is not, however, appreciated by most southerners as they perceive such reasoning as diluting their genuine and unique cause.

¹⁴ Mansour Khalid is a well-known political figure in Sudan and held many ministerial positions during the Numeiri period. He was one of the first northern politicians who joined the Sudan People's Liberation Movement (SPLM) ranks at its early stage of inception and formation.

5.3 Horizontal inequality: grievances and marginal cost of rebellion

While the first argument about religion and ethnicity emphasises the magnifying factors of civil war, the second argument about the role of the ruling northern elite is rather too general and does not explain why the current civil war erupted again in southern Sudan in the early 1980s.

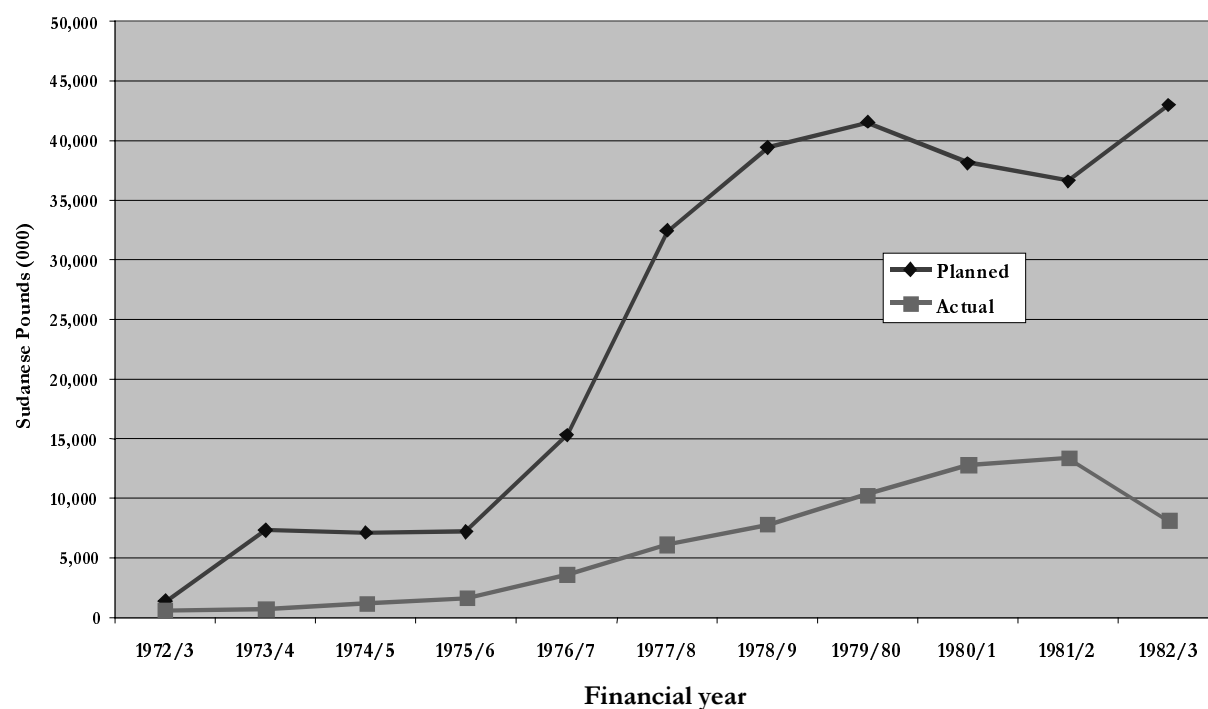
In most of the studies on the causation of civil war, there has been much focus on natural resources with a relative dearth of attention devoted to revenue allocation mechanisms that determine the level of vertical and horizontal inequality. The conflict around natural resources is largely determined by *uncertainty* in the distribution of revenues, *equity* in the allocation of revenue and the level of *enforcement* of the rules for allocating revenues (Herbst 2001). In most cases the institutional structures that guide the allocation of revenues from natural resources tend to be the drivers for conflict rather than natural resources *per se*. The questions of how revenue from natural resources are distributed and whether such distribution is equitable and enforceable are central political questions for shaping and explaining the political conflict rather than mere abundance of natural resources. Stewart (2002) argues that horizontal inequalities are one of the major causes of conflict and vulnerability to conflict.

In the context of Sudan, the rules for allocating revenues to ensure equity and regional equalisation were not well spelled out in the Addis Ababa Agreement that ended the first civil war in 1972. Article 25 of the Addis Ababa Agreement arbitrarily set the contribution from the central government for the construction and development in southern Sudan to be around 20 per cent of the initial cost as assessed by the central government. Interestingly, Article 25 granted the southern region government the power to collect a Special Development Tax to be paid, paradoxically, by the war affected residents of the region. Also Article 11 (xiv) of the Agreement gave the southern regional government the right for mining and quarrying with the central government still retaining the entire ownership rights over natural gas and minerals.

The revenue-sharing arrangement as provided by the Agreement, besides lacking an economic rationale and sound theoretical framework, utterly failed to address the long-standing horizontal and vertical inequality between north and south. It is this apparent flaw in the initial institutional design for a revenue-sharing arrangement that accentuated regional socio-economic disparities that further triggered again civil war in Sudan.

In order to assess the revenue-sharing mechanisms after the Addis Ababa Agreement, the planned development budget for southern Sudan region is compared with the actual expenditure during the period 1972/3–1982/3 as shown in Figure 5.1. It is apparent from Figure 5.1 that the realised and actual budget was hardly covering 20 per cent of the planned budget, except in the first year of the peace agreement in 1972 when the realised budget reached about 40 per cent of the planned budget. The realised budget was financed by regional government sources, a contribution from the central government (20 per cent as spelled out in the agreement) and external sources. The fact that the realised budget was hardly covering 20 per cent of the planned budget clearly suggests that the revenue transfers from the central government were less than 20 per cent, and the regional government was also unable to mobilise the necessary resources because of deficient fiscal capacity and weak regional economy.

Figure 5.1 Southern Sudan planned and actual budget, 1972–83

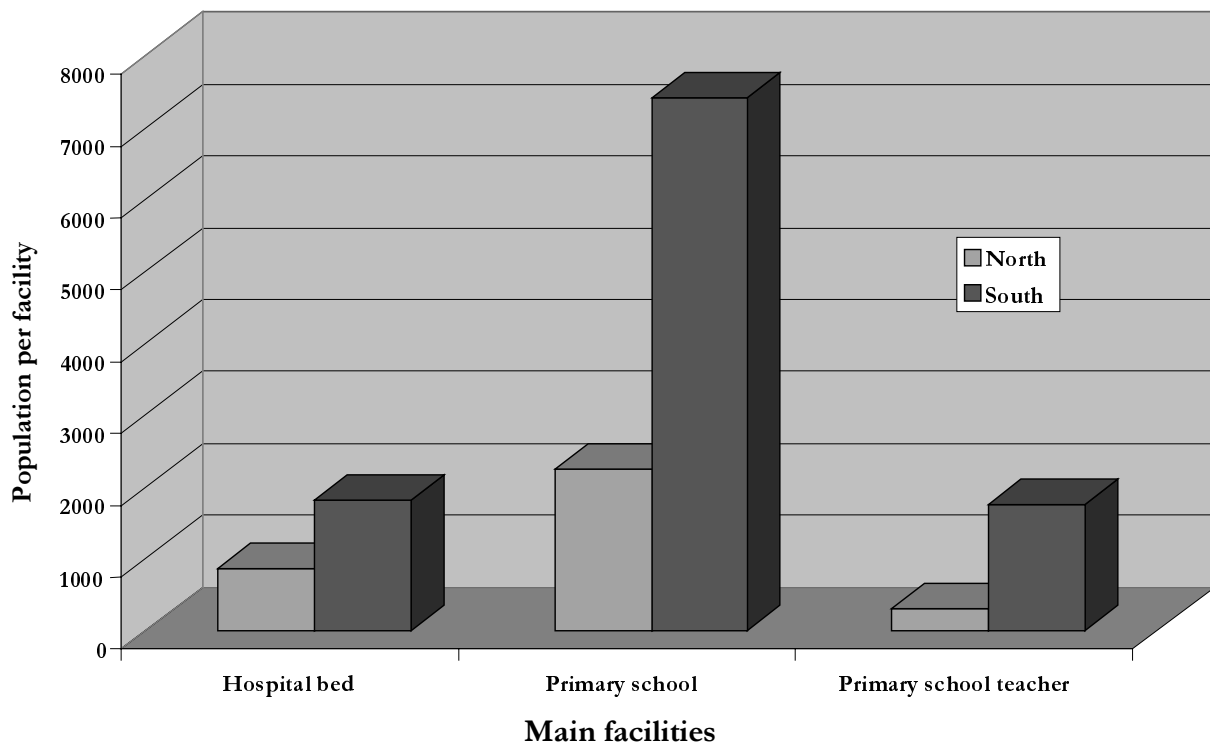


Source: Southern Sudan Regional Ministry, *The Six-Year Plan*, p 227

As a result of dwindling resources generated by the regional authority and coupled with limited revenue transfers from the central government before the eruption of the current civil war in 1982, the socio-economic services deteriorated and the disparity between north and south widened as shown in Figures 5.2 and 5.3. It is not surprising to observe from Figures 5.2 and 5.3 the appalling and shameful disparity between the south and north. For example, while about 800 persons in northern Sudan had access to one hospital bed in 1980, about 2,000 residents in southern Sudan had access to one hospital bed. The disparity is even more dramatic when comparing access to education as about 2,000 residents in northern Sudan had at least one primary school while about 8,000 residents in southern Sudan had one primary school in 1980. The situation was even more alarming when considering admission to the national universities as about 3,500 residents in the north were competing for one seat while almost 200,000 residents in southern Sudan were accessing only one seat in 1983.

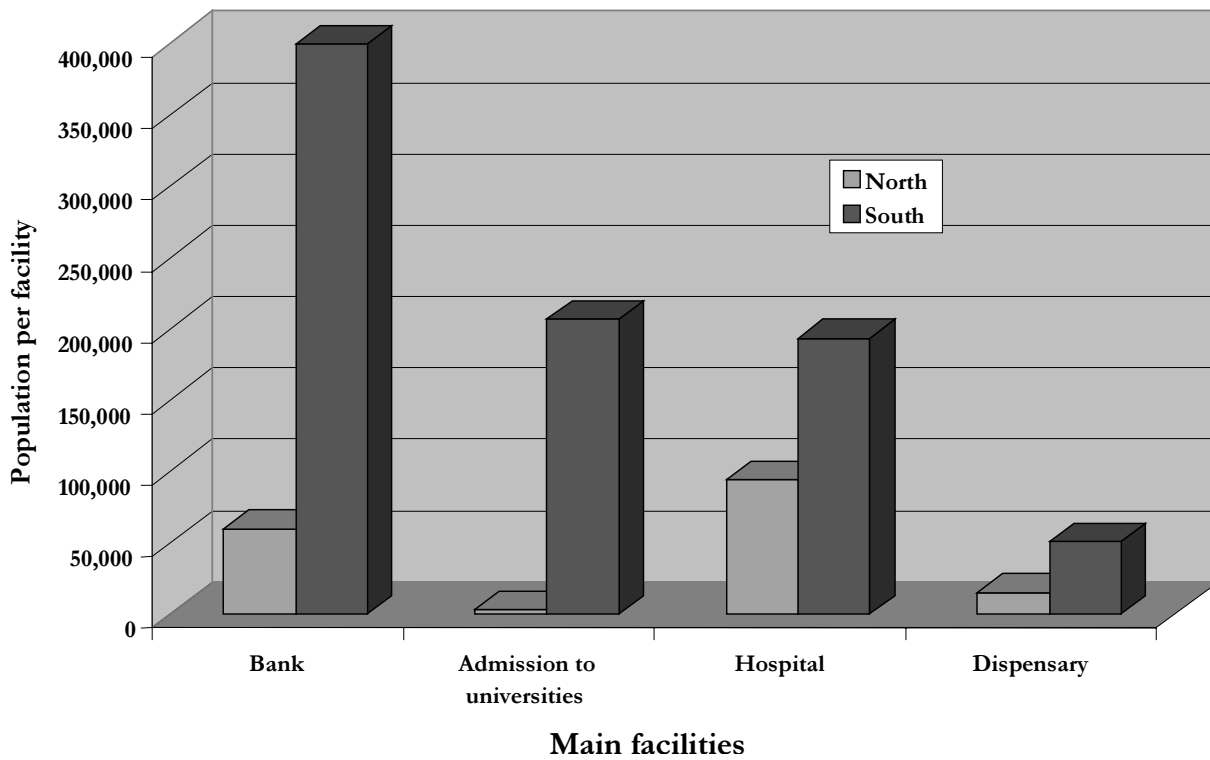
These apparent socio-economic disparities and horizontal inequalities generated a sense of frustration and feeling of helplessness, injustice and marginalisation that eventually led people in the south to resort again to armed struggle in order to readdress such disparity and inequality (Yongo-Bure 1993). Garang (1987: 20) emphasises the economic factors, such as fall in productivity, high level of unemployment, hyper-inflation, acute inadequacy and deteriorating social services and social and moral bankruptcy in the ruling system, that have plunged the overwhelming majority of the people, particularly southerners, into an abysmal level of poverty and suffering. Garang (1987: 21) argues, using his words, that ‘under these circumstances the *marginal cost* of rebellion in the South became very small, zero or negative; that is, in the South it pays to rebel’.

Figure 5.2 Sudan health and education access inequality, 1980



Source: Department of Statistics, Khartoum

Figure 5.3 Sudan banking, university and health access inequality, 1980



Source: Department of Statistics and Admission Office, Khartoum

Besides the deteriorating socio-economic conditions that have fallen more on the south than other parts of the country, the other immediate factors that triggered the current civil war included: the dismantling of the Addis Ababa Peace Agreement in 1972; the attempt to change the boundaries of the south to deprive it of its mineral rich or prime agricultural land; the division of the south into three regions; the siphoning of natural resources such as the extraction of oil and water from the south; and finally, the decision to transfer to the north (Khartoum) southern soldiers (former rebel fighters) who were absorbed into the national army after the Peace Agreement in 1972. This series of deliberate violations of basic legal, political and economic rights of the south made Garang (1987) argue that the northern ruling elite by then had openly aggressed and agitated southern Sudanese into rebellion and civil war and such provocations had precipitated renewed civil in Sudan.

5.4 The curse of natural resources: extractive development policies

The experience of the new internal wars in Africa that emerged in countries like Angola, Democratic Republic of Congo and Sierra Leone has made some researchers reach a general conclusion that contemporary civil wars are triggered by natural resources as booty that is far more valuable than the political agenda of seizing power. Malaquias (2001)¹⁵ specifically argues that it is not accidental that the new internal wars in Africa are fought in countries well-endowed with natural resources, with the primary objective of pillaging natural resources rather than achieving political objectives. Some researchers have even found a correlation between a high mineral endowment (*point resources*)¹⁶ with a high incidence of conflict, while an abundance of renewable resources (*diffuse resources*) does not correlate (de Soysa 2000). Most recent researchers on conflict tend to view rebel movements as a form of organised crime or quasi-bandits without due focus on the other side of conflict, particularly the role of states in the management of the natural resources that might have triggered the civil wars instead of greed *per se*. The case of Sudan's civil war suggests the contrary, as the greed of the ruling elite rather than that of rebels generated grievances and rebellion.

In the context of the Sudan civil war, the extractive development of natural resources, particularly water and oil, by the state towards the end of the 1970s and early 1980s contributed to the causation of the civil war that erupted in 1982. Suliman (1999) argues that the nature of conflict in Sudan has changed from being a classic ethno-religious conflict to one mainly over resources, with the economic and resources crisis in the north emerging as a driving force in the Sudan civil war. Lautz and Zandvliet (2000) attribute the root cause of conflict in Sudan to the structural inequalities of the Sudanese economy as it is oriented to exploiting the resources of the south to benefit the north and this process has been characterised by brutality on a massive scale.

¹⁵ Malaquias (2001) treats the case of the Sudan People's Liberation Army (SPLA) as an exception to the normal patterns of the current civil wars and insurgencies in Africa.

¹⁶ Le Billon (1999) categorises natural resources into two main types of resource exploitation: *point resources*, which mostly involve the *extraction* of non-renewable resources with little labour input; and *diffuse resources*, which mostly involve the *production* of renewable resources with large amounts of labour.

While most development projects aimed at improving the living conditions of the south after the first civil war were deliberately strangled by the central government, only two projects were exceptionally undertaken with vigour by the central government because of their inherent economic value to the north (Wakoson 1993). These two projects were the extraction of oil via the Chevron project and the extraction of water via the Jonglei Canal project and were apparently aimed at exploiting natural resources in the south to benefit the north as elaborated below.

5.4.1 Regional hegemony: the Jonglei Canal project

The Jonglei Canal Scheme was a joint venture between the Sudanese and Egyptian governments with the main aim of providing additional irrigation water to northern Sudan and Egypt. The Jonglei Canal Scheme was an essential part of an ambitious British project called the Century Storage Scheme, which was aimed at controlling the whole of the Nile. The project as mentioned by Dean (2000: 76) ‘has been on the drawing board for the whole of last century seeing as well the rise and fall of British Empire; the emergence of nationalist movements and a sovereign Sudan and Egypt’. The first plan of the project appeared in 1894 and its actual construction started only in 1978, six years after the Addis Ababa Agreement in 1972. The canal was estimated to have a length of 360 km, width of 54 metres and depth of 4.5 metres and an estimated carrying capacity of 20 million cubic metres of water per day that was to be diverted from the Sudd marshlands in the White Nile. This makes the Jonglei Canal longer than the Suez and Panama Canals together. The actual digging of the canal was carried out by a French Consortium (Compagnie de Constructions Internationale (CCI)), using the world’s largest single mechanical excavator at that time, which weighted about 2,000 tonnes and moved an average of 60,000 cubic metres of earth per day.

The vast Sudd region in southern Sudan causes through evaporation and transpiration in the swamps a great loss of water estimated to be about 33,000 million cubic metres of water annually. Despite such huge water loss, the Sudd region provides a kind of harmony or “equilibrium” that exists between people, animals and environment that has led to the adoption of semi-nomadic livelihoods by the Dinka and other communities that live in that region. The canal was expected to conserve more than 10 per cent of the water loss to be used to irrigate an extra 3.1 to 4.2 million acres of land in northern Sudan and a similar area in Egypt (Baya 1988 and Lako 1982).

The idea of the Jonglei Canal goes back to 1898 when Britain and Egypt invaded Sudan and formed a condominium that was characterised by strategic and commercial competition between the two partners, particularly over the Nile and the use of its water. Immediately after the invasion, Britain embarked on a programme of dam construction for growing cotton for export to the metropolis and with pressure from the British Cotton Growing Association, Sennar Dam was constructed in 1913–25, which gave birth to the well-known irrigation Gezira Cotton Scheme (Lako 1982). The construction of Sennar Dam raised serious apprehensions in Egypt as its water requirements are entirely met by the Nile and any irrigation

scheme that draws from the Nile directly interferes with the Egyptian national interest.¹⁷ The tensions between the condominium partners was settled in the context of the Nile Waters Agreement in 1929, which was revised in 1958 and gave Sudan a fixed share of 18.5 billion cubic metres while Egypt's share was 55.5 billion cubic metres per annum. Rather than competing over the allotted water shares, the two countries were to cooperate in increasing the Nile yield of water and the vast Sudd region in southern Sudan was regarded as the main source for additional water.

Most planners and the ruling elite during the Anglo-Egyptian Condominium, sovereign Sudan and even the southern regional government that was established after the Addis Ababa Agreement in 1972, regarded the water system of Nile, particularly the Sudd region, as wasteful, with a predominant perception that any scheme that will reduce the water loss in the swamps of southern Sudan will be of great benefit to the local communities. As a result most feasibility assessments of the Jonglei Canal project focused on its technical efficacy with an inherent assumption of its economic benefits to the local communities. For Egypt, the whole of Sudan was perceived as a mere tank of water while the northern ruling elite viewed the southerners as backward and primitive, for whom projects like Jonglei Canal would transform their traditional subsistence economy. On the other hand, the educated southern ruling elite at that time, because of their relative education, were overwhelmed by a paternalistic attitude towards the local communities as they became obsessed with their perceived righteous role of imposing any new idea such as Jonglei Canal that they deemed beneficial to their communities.

An official of the southern Regional Government commented that if people rejected projects like Jonglei Canal that would only mean that 'people do not necessarily know what is best for them'. Another senior official even took a rather extreme position by stating that 'if we have to drive our people to paradise with sticks, we will do so for their good and the good for those who will come after us' (Lako 1982: 29). The government (north and south) had little confidence in the ability of the subsistence economy to modernise through its own internal mechanisms and the socio-economic systems of the communities, particularly semi-pastoralist societies in southern Sudan, were considered too "primitive" or "rudimentary" to suit the needs of a "modern society".

When the Jonglei Canal project was hurriedly announced only two years after the signing of the Addis Ababa Agreement in 1972, it was immediately received with a students' riot in 1974. Many southerners saw the Jonglei Canal project as a symbol of northern exploitation of the resources of the region, with little gain by the south as it would create major ecological changes which would not only affect wildlife but would severely upset the traditional livelihoods of the local communities (Baya 1988).

¹⁷ Egypt is predominately an agricultural country with approximately 70 per cent of the total population supported by this sector and most of its exports and a large share of its Gross Domestic Product (GDP) are derived from agriculture. The Nile meets 90 per cent of Egypt's water requirements, and 99 per cent of its agricultural land uses Nile water and a total of 97 per cent of its water falls outside its territory (Dean 2000). Egypt's chronic problem of 'over-population' relative to the size of its cultivable land poses a real threat to the Nile Basin's regional security as water resources are not expandable while water requirements are increasing throughout the region. It has been predicted that the water provisions will drop to 980 cubic metres per head by 2025, which is far below 1,000 cubic metres required for Egypt to be an efficient, moderately industrialised nation (Tvedt 1986; Dean 2000).

It was only in 1975, one year after the riots, that the government became concerned about the effects of the canal on the people and took serious steps to carry out a socio-economic assessment of the canal. Despite the fact that the socio-economic assessment clearly indicated that most local communities were at best sceptical about the canal's projected benefits, a position shared by students and lower rank civil servants, the government proceeded with the implementation of the actual excavation of the canal in 1978 with support by the southern ruling elite in top civil service jobs (Lako 1982).

Immediately after the actual construction of the canal started, the then national government in Khartoum signed an Integration Treaty with Egypt that sparked and triggered anger in the south as this treaty was perceived by the south as tantamount to absorption and incorporation of southern Sudan into the Arab world. The treaty also aroused concerns among southerners about the pan-Arab strategic agenda in the Jonglei Canal as Egypt in 1978 was fully behind the pan-Arab agenda of controlling the Nile Valley. Dean (2000: 78)¹⁸ shows a pan-Arab agenda for southern Sudan in an intercepted communication in 1978 between the Director of Egyptian Intelligence in Khartoum and one of his operatives in southern Sudan. Though Egypt has assumed the role of the regional power¹⁹ in the Nile basin after the withdrawal of Britain from Africa, it could never survive losing its dominance to a more assertive and stable country in the region (Dean 2000). Subsequently, as the regional hegemony, Egypt has an interest in the renewed civil war in Sudan as a war-weakened Sudanese government would be less likely to challenge Egypt in matters of water or anything else (Dean 2000).

It is not surprising that when the civil war erupted in the early 1980s, the Jonglei Canal project, which was more than two-thirds finished, was one of its first casualties as the canal was immediately attacked and halted by the Sudan Peoples' Liberation Army (SPLA) forces in early 1984. The world's largest single mechanical digger was destroyed and dismantled and its remnants became an iron supply for the local blacksmith for making household assets and agricultural tools. It was natural that most of the students and lower rank government officials who rioted against the Jonglei Canal in 1974 were the first to join and form the SPLA and such a composition of the SPLA made the canal their immediate target.

5.4.2 The lure of oil: multinational corporations

The discovery of commercial deposits of oil in 1979 in the south by the Chevron oil company was contentious as it created a real political tension as a result of the way the central government initially handled it. The central government together with Chevron deliberately concealed the location of the oilfield and also the quantities because of their fear that discovery of such a huge economic resource in the south would trigger the renewed feeling among southerners to secede. The specific locations where the oilfields were discovered in the south were vaguely referred to by the central government and Chevron in

¹⁸ This document states the higher strategic interest in Sudan of the pan-Arab movement to be the 'eradication of the traces of Addis Ababa Agreement and its use for national objectives for the strengthening and consolidation of Arab States economically, militarily and to enhance unity'

¹⁹ The Nile Water Treaty, which was signed in 1929 and revised in 1959, with Britain signing on behalf of its colonies, gave Egypt the right to veto construction projects of countries which sought to use the headwaters of the Nile.

terms of distance and directional points from Khartoum. This deliberate policy of concealing from the public the basic facts about the oil discovery aroused again fear among southerners that the central government would steal their oil resources that they desperately needed for economic rehabilitation in the south after the 17 years of civil war.

This fear of southerners about the intention of the north was further crystallised when Attorney-General Hassan al-Turabi submitted in 1980 a new map to the Peoples Assembly that shifted the northern areas of the south where oilfields were discovered into the north (Lesch 1998). When the proposed boundary map of Sudan infuriated southerners, the central government withdrew the proposal and decided instead to shift the site of the oil refinery from Bentiu in the south to Kosti and later on to Port Sudan in the north. The decision to shift the site of the oil refinery from southern Sudan to the north was also challenged by southerners and the southern regional government. As the central government was desperate for absolute control over oil without interference from the southern regional government, President Nimeiri then unilaterally abrogated the Addis Ababa Agreement in 1983 by dividing the south into three regions and transferred Anyanya forces (former southern rebel fighters) to the north. These actions by the central government infuriated further the southerners and created uproar and provocations, particularly among southern soldiers (ex-rebel fighters).

It is apparent from the case of the Sudan civil war that the extractive development policy adopted by the central government to have control over the natural resources in the south forced it to arbitrarily use its powers to compromise constitutional arrangements and long-term peace for immediate and short-term economic gains. Though the oil explorations continued in the south against the interest of the entire population, the SPLA after its formation in 1983 immediately attacked and disrupted Chevron's oilfield operations early 1984 and forced the company to suspend its operations by mid-1984.

5.5 Economic crisis: structural adjustments and debt burden

The history of sovereign Sudan has been characterised by continuous assets stripping ranging from raiding of slaves and looting of cattle to the more subtle extraction of water, oil and timber resources from the south. This forcible process of assets and resources transfer from the south has served as the cheapest and easiest source of obtaining much needed resources for the declining economy in northern Sudan. The economic and resources crisis in the north, particularly during the 1970s and the early 1980s, forced the central governments in the north to pursue activities and policies that aimed at stripping assets and resources from the south. The behaviour of the central government in abrogating the Addis Ababa Agreement, extractive development of natural resources in the south and adoption of the Arab-Islamic paradigm came as a result of the economic crisis during the early 1980s. The economic crisis in northern Sudan during the early 1980s is greatly related to the crisis in traditional agriculture and to external debt.

5.5.1 The crisis of subsistence: the bloody money

The economic crisis of Sudan in the early 1980s was largely related to a lack of strategic economic planning and coordination that resulted in a drastic transformation of the agricultural sector to focus on

large irrigation and rain-fed mechanised farming at the expense of traditional agriculture. The rain-fed traditional agriculture sector during the 1960s had been providing sustainable livelihoods to the rural communities, particularly peasant farmers and pastoralists, through self-sufficient and risk minimising economic activities. While peasant farmers built soil fertility with organic matter and extensive use of legume-based rotations and maintained sound fallow practices, pastoralists' movement was conditioned by seasonal changes and biological productivity (Kebbede 1999). The tension between pastoralists and sedentary farmers was minimised by regulating the movement of pastoralists, which increased access to grazing pastures as well as enriching the farmers' land with livestock organic waste. This sustained traditional agriculture that was pursued in Sudan during the 1960s explained why Sudan went relatively untouched between 1968 and 1973 when drought and famine ravaged the Sahelian countries (Bennett 1987).

In the early 1970s the central government initiated policies which encouraged and subsidised shifts towards large-scale, commercial and export-oriented agriculture as a "quick fix" to rapid economic development as well as attracting multilateral financial institutions, development agencies and rich Arab governments. In pursuance of rapid large-scale agricultural expansion, the central government introduced in 1970 a new land act known as the "Unregistered Land Act", which virtually legitimised the state's control and ownership of any piece of land. This Act allowed the central government to expropriate from the farming and pastoral communities thousands of hectares of prime savanna land, which were leased eventually to wealthy citizens and foreign investors to be used for capital-intensive, rain-fed mechanised and irrigated farming (Kebbede 1999).

In the 1970s the World Bank alone provided funding for the clearing of more than 2 million hectares of nomadic grazing land for large scale irrigated and rain-fed mechanised farming (Bennett 1987). In southern Kordofan about 84,388 hectares of the most fertile land was turned in 1973, with loans obtained from the World Bank, into publicly and privately operated mechanised farming schemes (Ahmed 1983). In the southern Blue Nile area a wealthy Saudi prince obtained a 99-year lease on 464,000 hectares of fertile land 'to produce sorghum to feed animals in the oil-rich nations' (Prendergast 1990: 41). Also in the 1970s, it is estimated that an average of 8,750 square kilometres of forest were removed annually to make room for mechanised farming (Berry and Geistfeld 1983). An example of such wholesale clearing of forest in the 1970s was the rapid decline of the *Acacia senegal*,²⁰ the tree that produces gum Arabic, which was later accelerated by peasant farmers in the early 1980s as it became more lucrative to turn their Acacia trees into charcoal for sale than to harvest the gum (Cater 1986: 10).

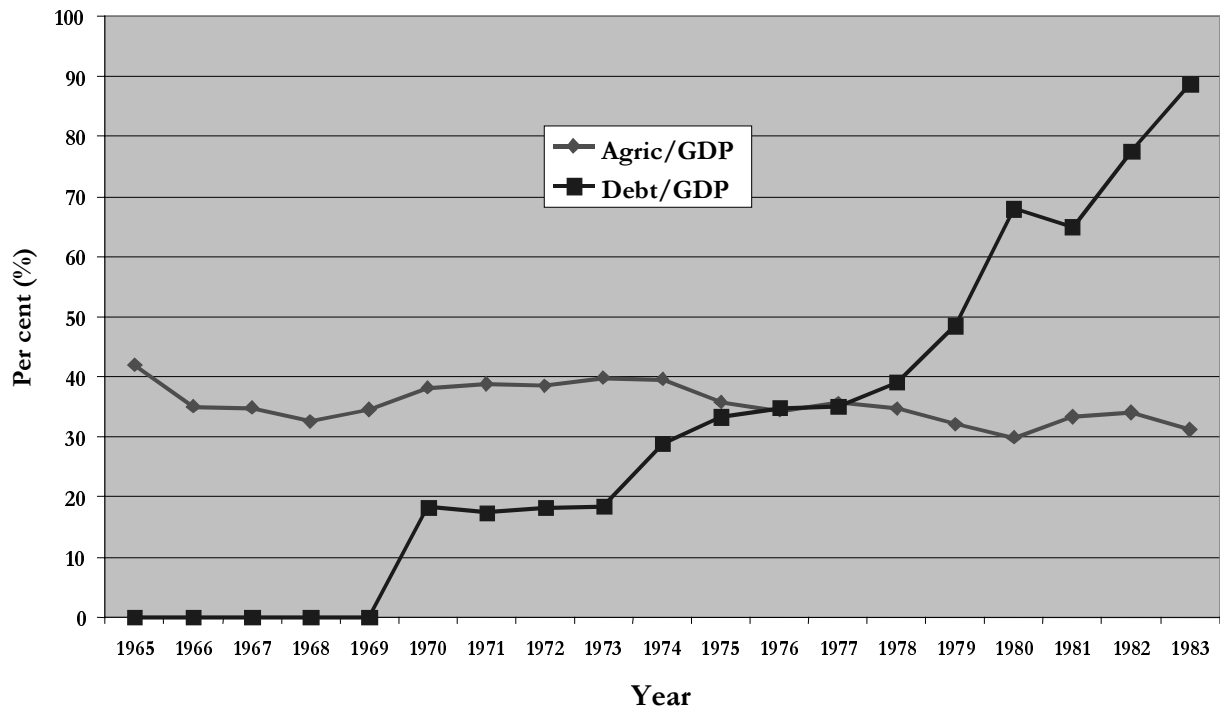
As a result, many traditional subsistence farmers and nomadic and semi-nomadic pastoralists in northern Sudan lost their farms and grazing lands during the 1970s and a large number of peasant farmers were forced to engage in wage labour working on large-scale, irrigated schemes or migrated to nearby

²⁰ *Acacia senegal*, besides producing gum arabic used for pharmaceuticals, printing and food preparation, is a crucial part of crop rotation as it fixes nitrogen from the air into the soil as a fertiliser and helps as well in preventing soil erosion and provides fodder and firewood (Kebbede 1999: 124).

urban centres (Kebbede 1999). The nomadic pastoralist communities in southern Kordofan and southern Darfur were forced by economic necessity to look southwards for new grazing lands or settlement areas, particularly in the south, which created frequent tensions and conflicts over scarce cultivatable land and fresh grazing land. The horizontal expansion of mechanised farming accelerated the deforestation and soil exhaustion that contributed to the recurrent droughts in the early 1980s, which became unmanageable by peasant farmers and pastoralists who became vulnerable to famine in 1984–5 in western Sudan. The drought and famine in western Sudan in the early 1980s triggered the greed drive among the destitute former herders to seek to replenish their stock through raiding, and traders with squeezed profit margins to turn to financing cattle raiding in the south as a lucrative business (de Waal 1996:8; Keen 1994). The nomadic pastoralists, because of shrinking and deteriorating livelihood options, became the right targets for the central government to use for its “militia strategy” and to wage on its behalf the counterinsurgency warfare in the south.

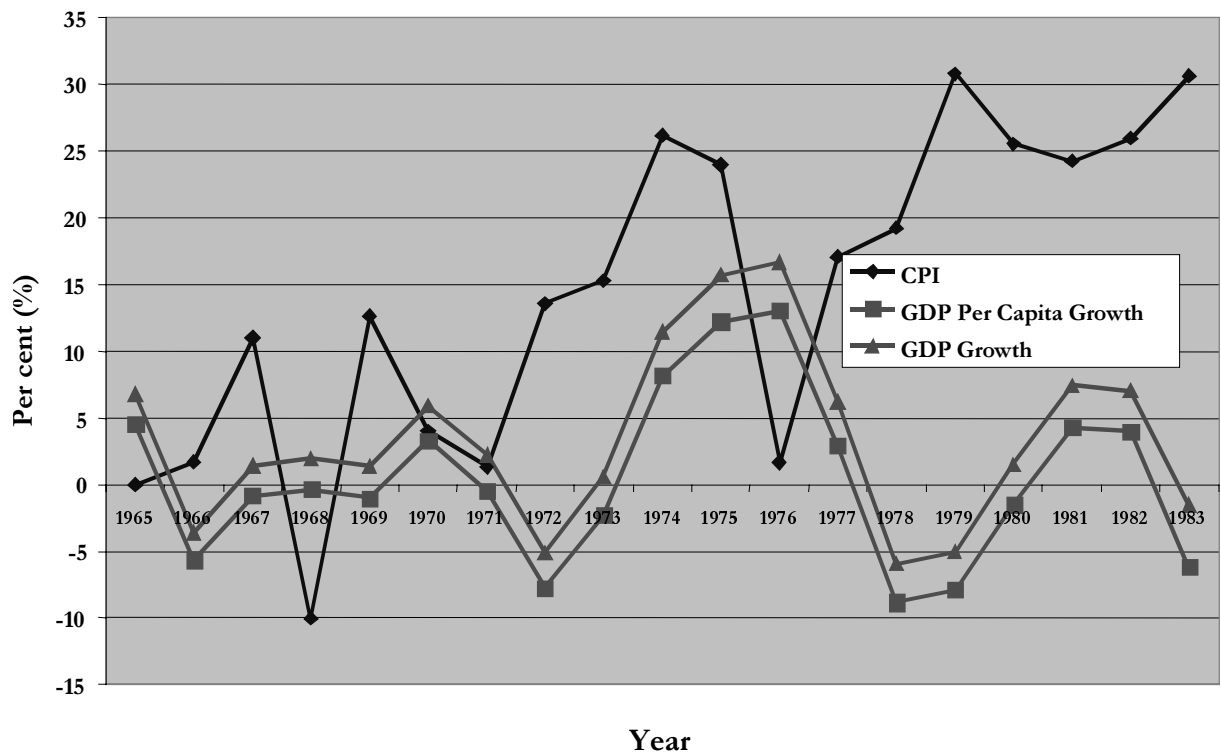
The results of these agricultural policies, which encouraged rapid expansion in mechanised farming in the 1970s, became apparent in the early 1980s as the livelihoods of entire rural communities, particularly peasant farmers and pastoralists, began to collapse. The contribution of the agriculture sector to gross domestic product (GDP) declined to about 30 per cent compared to 42 per cent in 1965 as shown in Figure 5.4. The general aggregate national economic indicators of standard of living and livelihoods showed considerable deterioration in the living conditions in the early 1980s. The cereals yield declined to 500 kg/hectare in 1983 compared to 700 kg/hectare in 1965. Also the real growth of GDP and GDP per capita shrank considerably in 1983 by almost two times that of 1965 as shown in Figure 5.5. Also the real annual change in the consumer price index (CPI) reached as high as 30 per cent compared to 1.71 per cent in 1965. The living conditions were deteriorating even more rapidly among the rural communities particularly in western Sudan and reached the worst level when more than 250,000 persons perished as a result of famine in 1984–5 (de Waal 1989). In the urban centres the real wage declined considerably and the cost of living increased by almost 800 per cent between 1970 and 1982 and led to an exodus of skilled labour to the Arab oil-producing states (Daly 1993).

Figure 5.4 Sudan agriculture and foreign debt, 1965–83



Source: International Monetary Fund

Figure 5.5 Sudan inflation and GDP growth, 1965–83



Source: International Monetary Fund

5.5.2 Debt crisis: IMF and Arab investment

Sudan as a member of Arab League adopted an ambitious plan in the mid-1970s to transform the country into the “breadbasket of the Middle East” because of its relatively huge agriculture potentials that could easily be utilised to meet the food needs of the newly rich Arab oil-producing states. This plan was largely aimed at attracting investment from the Arab oil-producing states that became rich as a result of the first “oil shock” and were looking for investment outlets. This Arab investment coupled with favourable terms of foreign loan in the 1970s made Sudan excessively take foreign loans beyond its capacity (Deng, L. 1989). While in 1970 Sudan’s foreign debt was about \$424 million; it reached \$5.132 billion and \$6.117 billion in 1980 and 1983 respectively. As such foreign loans failed to reach their intended projects, the foreign loans became Sudan’s nightmare as the funded projects did not create an adequate revenue base to pay foreign loans servicing. The debt–export ratio, which was about 1.13 in 1970, reached 4.92 and 5.78 in 1980 and 1983 respectively, with debt service alone consuming up to 25 per cent of total exports by 1983. The foreign debt that constituted about 20 per cent of GDP in 1970 reached about 90 per cent in 1983 as shown in Figure 5.4.

As a result of the second “oil shock” in 1979–80, coupled with deteriorating terms of trade, the cost of imports doubled between 1980 and 1983 while the export earnings declined sharply. As a result the trade deficit reached about \$626.5 million in 1983 compared with a trade surplus of \$10.8 million in 1968. The level of foreign reserve also shrank in 1983 to almost a quarter of its level in 1965. The International Monetary Fund (IMF) stabilisation and austerity intervention in 1978, with the aim of controlling public spending, increasing revenue and encouraging export, did not improve the situation and resulted in the rescheduling of Sudan’s foreign debt in January 1983 (Prendergast 1989: 43).

Sudan’s economic situation in the early 1980s was set as described by Daly (1993: 22) to ‘a financial crisis of unprecedented magnitude, in which the Sudan would degenerate from potential breadbasket to international basket-case’. By 1983 the Sudan economy had worsened to the point of explosion or had virtually reached the level of bankruptcy that threatened the central government. The then vulnerable central government stepped up Islamisation and abrogated the Addis Ababa Agreement in 1983 in order to appease right-wing opponents and to retain power (Daly 1993).

5.6 Counterinsurgency warfare: “scorched earth strategy”

It is against this background of economic crisis that the economic motivation was created for the central government to pursue policies that generated grievances and rebellion in the south, which further encouraged the central government to legitimise the greed of the impoverished northern Arab pastoralists through a “militia strategy”. The ruling northern elite, as a result of economic crisis, resorted to subcontracting civilians as militia to wage counterinsurgency warfare cheaply in the south. De Waal (1996) shows how the near-bankrupt successive governments in Sudan during the 1980s used the “militia

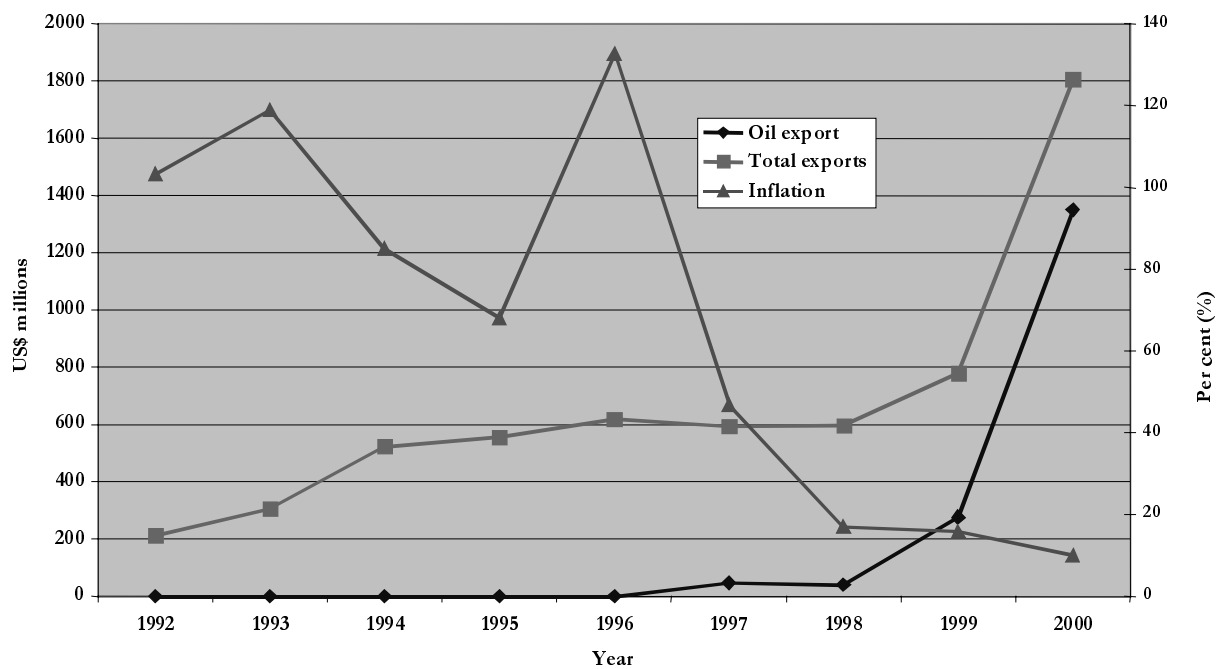
strategy”²¹ as an opportunistic way of waging counterinsurgency warfare in the south. The “militia strategy” started in the late 1970s as a result of the failure of the central government to provide security around the Chevron oilfield operations in the south and that forced it to use Baggara Arab pastoralists in western Sudan as local protection force (latter known as *Murabaliin*, mobile forces). The formation of the self-provisioning *Murabaliin* militia earmarked the militarisation of the rural Sudan, which easily encouraged the civilians and even some rebel combatants to be involved in the counterinsurgency warfare either for economic, security or psychological reasons (de Waal 1993; Keen 2000).

Currently huge deposits of petroleum and natural gas have been discovered in southern Sudan with oil reserves estimated to be more than 262.1 billion barrels (Gagnon and Ryle 2001). There are some 17 exploration and 25 development oil wells in southern Sudan that are being managed by multinational corporations from Canada (Talisman), Sweden (Lundin), France (Elf), Italy (Agip), Austria (OMV-AG), Netherlands (Dutch Shell), Belgium/France (TotalFina), Gulf, Malaysia and China with an estimated daily production of more than 250,000 barrels that is likely to reach 450,000 barrels. The production of oil resumed in 1992 and oil export started in 1997 and reached about 75 per cent of total Sudan exports in 2000 with inflation reaching its lowest level as shown in Figure 5.6. Though oil development has lifted Sudan’s economic status to the middle-income group, oil revenues neatly correlate, paradoxically, with a visible increase in government military expenditure and gross human rights abuses in the oil fields area (Christian Aid 2001; Gagnon and Ryle 2001). The Sudan military budget that was about S£80.6 billion in 1995/6, a year before oil export began, reached S£932 billion with an increase of more than ten-fold in the year 2000/1 (EIU 1996–2000). The Sudan government has recently established, with the contribution of oil revenues, three new factories for the manufacture of arms and ammunition (Gagnon and Ryle 2001). The Sudan government is now able to manufacture its own version of the AK 47 rifle and the Russian T55 tank.

This considerable increase in the Sudan government’s military expenditures and capabilities is clearly linked to oil development and the provision of the necessary security around oil fields. Most recent reports (Christian Aid 2001; Gagnon and Ryle 2001) show how oil is funding and sustaining civil war and how the government of Sudan is pursuing a “scorched earth” policy to clear oil fields of civilians in order to make way for the exploration and development of oil by multinational oil corporations. The oil development in southern Sudan that contributed to the causation of the current civil war is now apparently causing misery and has indeed ruined the livelihoods of the indigenous communities around the oil fields areas as the government’s military strategy has intensified and geographically focused to displace indigenous inhabitants. The humanitarian dimension of oil development in southern Sudan is rather dramatic and traumatic as the local communities have become victims instead of beneficiaries of their own natural resources.

²¹ ‘Militia strategy’ is a way of involving civilians in counterinsurgency warfare with minimal support from the central government. Such militias are above the law and sustain themselves through militarisation, raiding and stripping or expropriating assets from the local communities.

Figure 5.6 Sudan exports, oil export and inflation, 1992–2000



Source: Economic Intelligent Unit

The government of Sudan uses a wide range of multinational oil corporations as an effective strategy to conceal its excessive violations of human rights and massive displacement of the indigenous communities of the oil fields area. Recent reports (Christian Aid 2001; Gagnon and Ryle 2001; Harker 2000) indicate that these multinational oil corporations are part and parcel of the government policy of “scorched earth” and counterinsurgency strategy as they effectively assist the war effort of the Sudan government and thus participate in exacerbating the suffering of the inhabitants of the oil area and derail the prospect for peace in Sudan.

Southern Sudan and particularly Bahr el Ghazal region has been the epicentre of the civil wars being fought in Sudan. Before the formation of the SPLA in 1983, the people of northern Bahr el Ghazal region started organising their resistance in 1981 in response to their local grievances, and in particular the failure of central government to provide the necessary protection against the waves of raids and attacks by *Murabaliin* (Deng, L. 1999). This early start of insurrection and rebellion in northern Bahr el Ghazal is not surprising as the communities of these areas adjacent to the north have been among those most seriously affected by the policies of the central government and the activities of its proxy forces (*Murabaliin*). When the SPLA was formed in 1983 with broad national slogans, the people of northern Bahr el Ghazal were the first to join it, their overriding motive being to gain arms and military training in order to protect their livelihoods, land and assets from *Murabaliin*. This attempt was counterproductive as most of the youth joined the SPLA on the Ethiopia–Sudan border, taking with them all their locally acquired light weapons, and the area was left increasingly vulnerable to the raids of *Murabaliin* as the forces of the SPLA only arrived to the area in 1987 (Deng, L. 1999).

As it is closer to western Sudan, which was facing the subsistence crisis discussed earlier, and is relatively more endowed with natural resources than other regions of southern Sudan, Bahr el Ghazal region has been the fighting ground for the civil wars particularly the counterinsurgency warfare campaign. This counterinsurgency campaign is being waged by government militia mainly composed of Baggara Arab pastoralists who live just to the north of the internal frontier of Bahr el Ghazal region and the Dinka militia, most recently in the 1990s. Besides having personal and communal motives to replenish their stocks by raiding Dinka cattle, the Baggara Arab pastoralists have also another economic motivation of occupying and settling permanently on Dinka land for easy access to pastures and water and to control the recently discovered oilfields in Bahr el Ghazal and Upper Nile regions. This forcible local asset transfer from Dinka communities to Baggara Arab nomads (de Waal 1996; Keen 1994; Duffield 1993; Mawson 1990) has even evolved to include the abduction of Dinka children and women for forced labour and slavery (Deng, L. 1999).

The situation in Bahr el Ghazal region worsened during the 1990s when political divisions erupted in 1991 within the forces of the main southern rebel movement (SPLA)), which resulted in a splinter group (mainly Dinka and Nuer) that joined the government forces to further intensify counterinsurgency warfare in Bahr el Ghazal region, a stronghold of the SPLA. Unlike the raids of Baggara Arab militia that are exogenous and occur during the dry season, the counterinsurgency warfare that was waged during the 1990s by the splinter group (Kerubino's Dinka militia) was all year round and emerged from within the Dinka communities. The arrival of Kerubino on the scene in 1994 created a deleterious impact on the livelihoods of the communities in northern Bahr el Ghazal. Kerubino was a typical example of a warlord who was primarily motivated by a desire for vengeance against the SPLA and by loot and since 1994 his forces have been marauding northern Bahr el Ghazal from his base in the government enclave of Gogrial town. During the 1990s Kerubino's Dinka militia has been targeting most areas that produce food or hold stocks and livestock and relief deliveries, stealing and looting what they can and destroying much of what remains (Human Rights Watch 1999).

6 Household assets management strategies in the 1990s

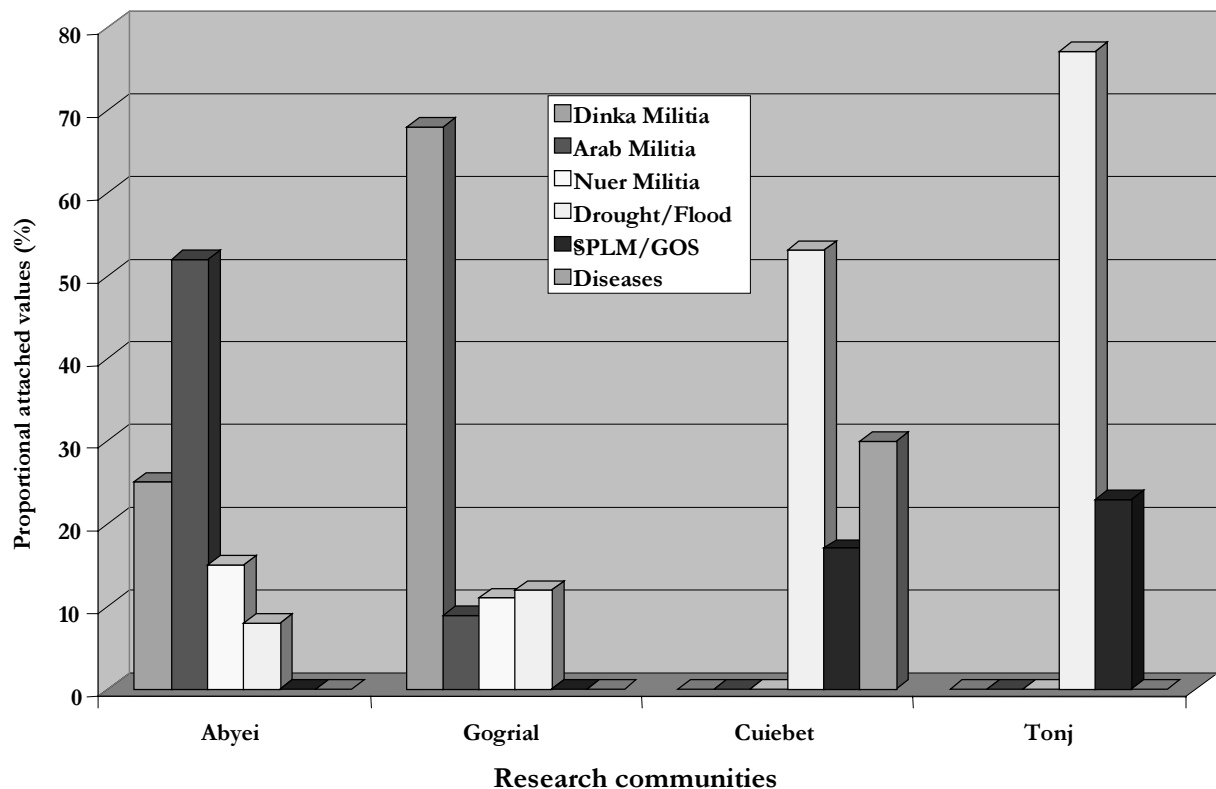
This section discusses the main findings of the fieldwork in relation to the research questions, particularly at the household and community levels, and presents as well the common themes and the key issues that emerged during the research fieldwork. These findings are discussed under five main headings: sources of risk, susceptibility to risk, diversification, social capital and famine mortality.

6.1 Sources of risk in Bahr el Ghazal region in the 1990s

The communities in Bahr el Ghazal region were exposed to various sources of risk during the 1990s. These sources of risk included: *conventional war* between the government (GOS) and the rebel movement (SPLA), *counterinsurgency warfare* (Arab militia, Dinka militia, Nuer militia), *drought* and *diseases*. While the communities were exposed to a combination of these risks, the degree and level of exposure to different

types of risk varied across the research communities, as shown in Figure 6.1. It is apparent from Figure 6.1 that while the communities of Abyei attached importance to Arab militia as the main source of risk to their livelihoods, the communities of Gogrial considered the activities of Dinka militia as the main sources of their risk. The communities of Cuiebet and Tonj attached importance to drought as the primary sources of their risk. It is interesting to observe from Figure 6.1 that the research communities, particularly those exposed to counterinsurgency warfare, do not attach significant value to the conventional war between the government and the rebels as such a war does not have a direct impact on their livelihoods.

Figure 6.1 Sources of risk in Bahr el Ghazal region, southern Sudan, 1990s



Source: Community surveys

Though the community perception clearly identifies the main sources of risk to their livelihood, the characteristics of each source of risk as shown in Table 6.1 are important in assessing the main research questions. It is interesting to observe in Table 6.1 that drought and exogenous counterinsurgency warfare exhibit similar characteristics while those of endogenous counterinsurgency warfare are quite distinctive and different. The most relevant sources of risk for assessing the main research questions are Arab militia counterinsurgency, Dinka militia counterinsurgency and drought. While Arab militia activities and raids have a long history dating back to the period of the slave trade in the 1820s and formally institutionalised in the post-independence period, the Dinka counterinsurgency activities emerged and intensified in the 1990s (Deng, L. 1999). The nature of Arab militia counterinsurgency is that it is exogenous, seasonal (as it mainly occurs during dry season) and with sudden and swift effects for a short period of time. Dinka

militia counterinsurgency warfare on the other hand is endogenous as it emanated from within the communities all year round with specific exposure as facilitated by symmetric information as shown in Table 6.1. These two types of counterinsurgency, Arab militia and Dinka militia, will simply be respectively referred to as exogenous and endogenous counterinsurgency warfare.

Table 6.1 Comparison of sources of risk in Bahr el Ghazal region, southern Sudan, 1990s

Main features	Drought	Exogenous counterinsurgency	Endogenous counterinsurgency
Origin	External	External	Internal
Exposure	Generic	Specific	More specific
Occurrence	Slow-onset Random	Rapid-onset Semi-random	Rapid-onset Regular
Duration	Seasonal	Seasonal	Year round
Information	Asymmetric	Asymmetric	Symmetric
Learning curve	Medium	High	Low
Adaptability	Medium	High	Low
Effects	Everyone more poor	Everyone more non-poor	Everyone more non-poor
Post-Period	Normal	Normal	Constant threats

Though this paper focuses on the effects of counterinsurgency warfare on the rural livelihoods particularly household assets management, the insurgency warfare, including proliferation of small arms, warlords’ behaviour and combatants’ survival strategies, does have profound effects on the rural livelihoods. Though assessing the effects of insurgency warfare on the rural livelihoods is beyond the scope of this paper, it is necessary to highlight some characteristics of insurgency warfare particularly the proliferation of small arms. The proliferation of small arms in Dinka society and particularly in the hands of youths has produced an undesirable change in the relationship between age groups as it has shifted the centre of traditional authority away from the older age groups (Deng, L. 1999: 59). The strong traditional aspiration of youths to become elders and to enjoy the fruits of older age groups as figures of respect, wisdom and knowledge has gradually been fading out with the emerging militaristic culture, which has a profound effect on traditional social mechanisms and social capital. Also the high level of youth recruitment into the rebel forces has brought drastic demographic change and change to household structure as older age groups, particularly women, are becoming increasingly responsible for providing livelihoods not only for their households but also for the rebel soldiers.

6.2 The curse of assets: susceptibility to counterinsurgency warfare

The main assumption in the literature of risk is that risk events are exogenous. This assumption allows the imputation of vulnerability and susceptibility to risk events to the level of household assets ownership and management rather than to the nature and sources of risk. It is generally argued that the risk events are

transmitted through assets and not triggered by them, with an inherent assumption of an independent relationship between the occurrence of risk events and household asset ownership.

The discussion about the causation of civil war, particularly counterinsurgency warfare, clearly challenges this assumption and suggests instead that greed and criminal acquisition of assets are the primary causes of counterinsurgency warfare. This suggests instead that counterinsurgency warfare is primarily caused by the level of household and community assets ownership. Some researchers even argued, in the case of the Dinka of Bahr el Ghazal, without concrete evidence that it is the wealth of the Dinka rather than their poverty that make them susceptible to the risk of counterinsurgency warfare.

In order to assess the relationship between the occurrence of counterinsurgency warfare and the initial level of household assets ownership, the level of household displacement during the 1990s was used to proxy the level of household exposure to counterinsurgency warfare. The level of household displacement is then associated with the initial level of household wealth²² in order to assess the type and level of statistical association by using SPSS. The results as shown in Table 6.2 indicate that the non-poor households were more susceptible to risk events than poor households, particularly among the households that were primarily exposed to endogenous counterinsurgency warfare (Gogrial). The higher number of displacements is significantly associated with non-poor households, while poor households tend to experience fewer displacements, particularly in the context of risky events that emanated from within the communities, as shown in Figure 6.2. Interestingly the value of correlation (0.27) between level of wealth and exposure to risk is not only positive but also significant as shown in Table 6.2. This finding suggests that the level of household assets holdings is significantly linked to the occurrence of risk events, with non-poor households becoming relatively more susceptible to the risk of endogenous counterinsurgency warfare than poor households.

Table 6.2 Level of household susceptibility to counterinsurgency warfare

Type of risk event	Initial wealth status	Frequency of household displacement in the 1990s			
		Once	Twice	Thrice	More than thrice
Exogenous counterinsurgency (Abyei)	Poor	0 (0%)	2 (7w%)	5 (17%)	22 (76%)
	Middle	3 (3%)	1 (1%)	19 (17%)	90 (79%)
	Rich	1 (1%)	2 (3%)	7 (10%)	59 (86%)
Endogenous counterinsurgency (Gogrial)	Poor	8 (21%)	14 (37%)	14 (37%)	2 (5%)
	Middle	2 (2%)	25 (25%)	51 (51%)	22 (22%)
	Rich	0 (0%)	18 (27%)	28 (42%)	21 (31%)

Source: Household survey/SPSS output

²² Initial wealth was measured through household's own judgement, community judgement of household wealth status and number of livestock initially owned by household.

Symmetric measures

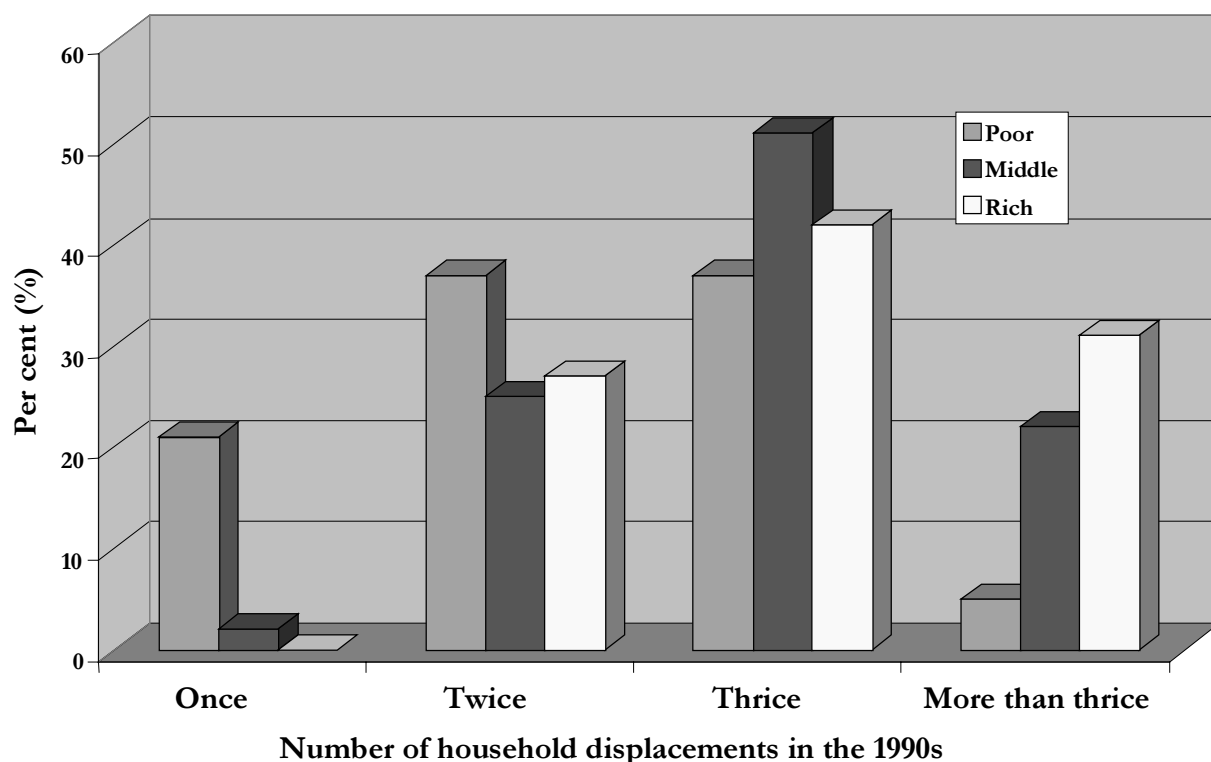
Type of risk event	Types of measures	Statistical test				
		Kendall's tau-b	Value	Asymp. std. error ^a	Approx. T ^b	Approx. sign.
Exogenous counterinsurgency (Abyei)	Ordinal by ordinal	Spearman correlation	0.079	0.064	1.215	0.224
		Pearson's R	0.083	0.068	1.207	0.229 ^c
	Interval by interval		0.062	0.067	0.896	0.371 ^c
	No. of valid cases	Kendall's tau-b	211			
Endogenous counterinsurgency (Gogrial)	Ordinal by ordinal	Spearman correlation	0.239	0.061	3.789	0.000
		Pearson's R	0.266	0.068	3.928	0.000 ^c
	Interval by interval		0.302	0.065	4.516	0.000 ^c
	No. of valid cases		205			

^aNot assuming the null hypothesis.

^bUsing the asymptotic standard error assuming the null hypothesis.

^cBased on normal approximation.

Figure 6.2 Susceptibility to endogenous countrinsurgency warfare in Gogrial, 1990s



Source: Household surveys

This finding is extremely important as it challenges the asset-vulnerability approach as well as the posited negative relationship between risk aversion and wealth, particularly in the context of civil war where counterinsurgency warfare targeted household assets and emerged from within the communities. The observed strong link between household assets holdings and the occurrence of risk events is directly

related to the nature of risk as counterinsurgency warfare is meant to create unsuitable ground for the guerrillas by destroying the asset base of the communities that provide them with refuge.

The other reason for such a significant causal relationship between the level of wealth and exposure to risk is the symmetrical information between Dinka militia and their targeted communities. The Dinka government militias tend to have most inside information about risk management strategies adopted by the households and the community in general. As discussed earlier, Bahr el Ghazal region was the epicentre of the counterinsurgency campaign during the 1990s with the Gogrial community uniquely experiencing the government militia Dinka-led raids that emerged from within the community. Most of these raids and counterinsurgency warfare campaigns targeted mainly household assets, particularly livestock as the mainstay of the Dinka livelihood.

Among households exposed to exogenous counterinsurgency warfare (Abyei), households experienced relatively higher numbers of displacements, which were rather random as shown in Table 6.2. The poor and non-poor households experienced a similar pattern of displacements, with non-poor experiencing a slightly higher number of displacements that is not significant. The value of correlation (0.083) between the level of wealth and exposure to risk is positive but not significant and far less than that of households exposed to endogenous counterinsurgency warfare (Gogrial). This finding further supports the argument that claims the vulnerability and susceptibility of the Dinka community to exogenous counterinsurgency warfare is related to their wealth, but such argument is weak at household level as a random pattern is observed.

This random pattern of the Arab militia counterinsurgency campaign is largely related to its nature, the cumulative experience of the Abyei community and asymmetric information. The Arab militia counterinsurgency warfare is largely exogenous and tends to lack adequate information about its targeted communities while Dinka militia have inside information about their targets as well as their risk management strategies. Also the Abyei community have been experiencing these Arab raids for a long time and particularly during the 1980s that greatly improved their risk learning curve, which enabled them to adopt relevant risk management strategies to confront the Arab counterinsurgency campaign. This finding is crucially important as it suggests that there are types of counterinsurgency warfare that are exogenous to the community and that tend to project characteristics similar to other types of risk events such as drought.

6.3 Diversification: the behaviour of the non-poor

It is generally perceived in the risk literature that the very nature of civil war, in terms of its unpredictable and sudden characteristics, makes it extremely difficult for households exposed to risk events such as counterinsurgency to take any ex-ante measures to reduce the anticipated adverse effects of civil war. Such generalisation may preclude the possibility that the very nature of civil war might even make some communities more proactive and consciously take a rational course of actions over their assets to reduce its anticipated adverse effects on their livelihoods. It is generally argued in the risk literature that the higher the risk the more households will diversify in order to reduce the adverse effects of risk events. It is even

observed that risk aversion declines with wealth and poor households will be less willing to bear risk, even if they have risk preferences identical to those of wealthier households.

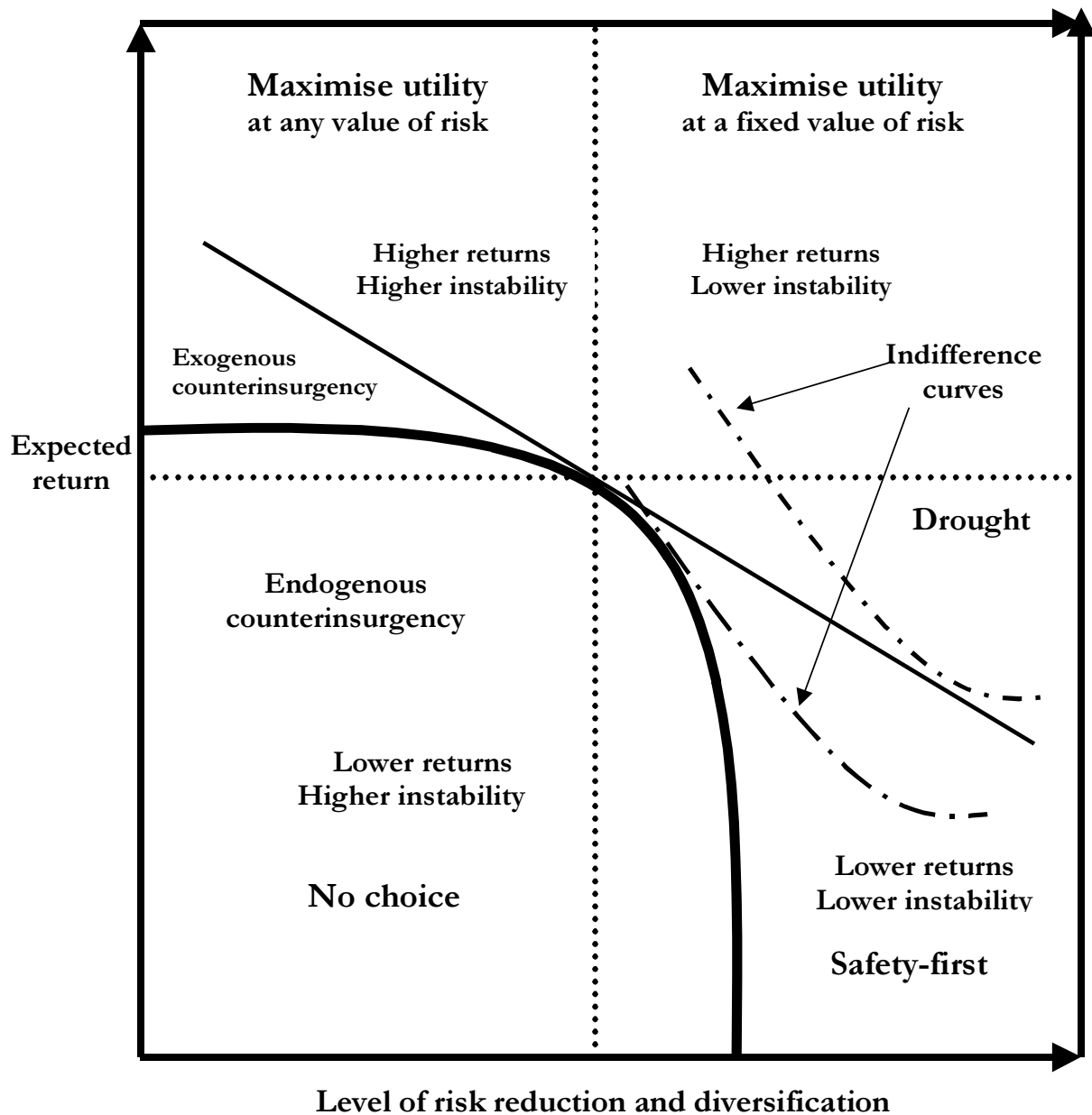
I will take diversification as one risk management strategy that is widely adopted by households to assess ex-ante risk management strategies and risk-related behaviours during civil war. The level of diversification will be used to assess whether households exposed to counterinsurgency warfare do diversify and whether the posited argument of an inverse relationship between risk aversion and wealth is valid in the context of civil war particularly counterinsurgency warfare.

Though there is no consensus about the meaning and use of diversification, it is generally considered as one of the primary household responses to risk (Siegel and Alwang 1999; Ellis 1998; Reardon 1997). While popular use of the term diversification tends to simply mean either changing or increasing the number of assets or livelihood activities, economic development literature uses the term diversification to define the process of structural transformation of the economy (Siegel and Alwang 1999: 26). Generally diversification may be both a deliberate household ex-ante strategy or an involuntary ex-post household response to the actual adverse effects of risk events. I have adopted the popular use of the term diversification to assess changes and/or increase in the number of household assets or livelihood activities.

The general discussion about the level of diversification adopted by households exposed to counterinsurgency warfare and drought is elucidated by Figure 6.3. The effectiveness of risk management strategies, particularly diversification adopted by households, largely depends on the nature of the risk, which shapes the set of objectives adopted by households, with different implications for household risk management strategies as shown in Figure 6.3. Generally the households, particularly those exposed to exogenous counterinsurgency warfare, seem not to take diversification as the main strategy, particularly in their main livelihood activities such as farming and livestock, and tend to specialise more than those exposed to drought.

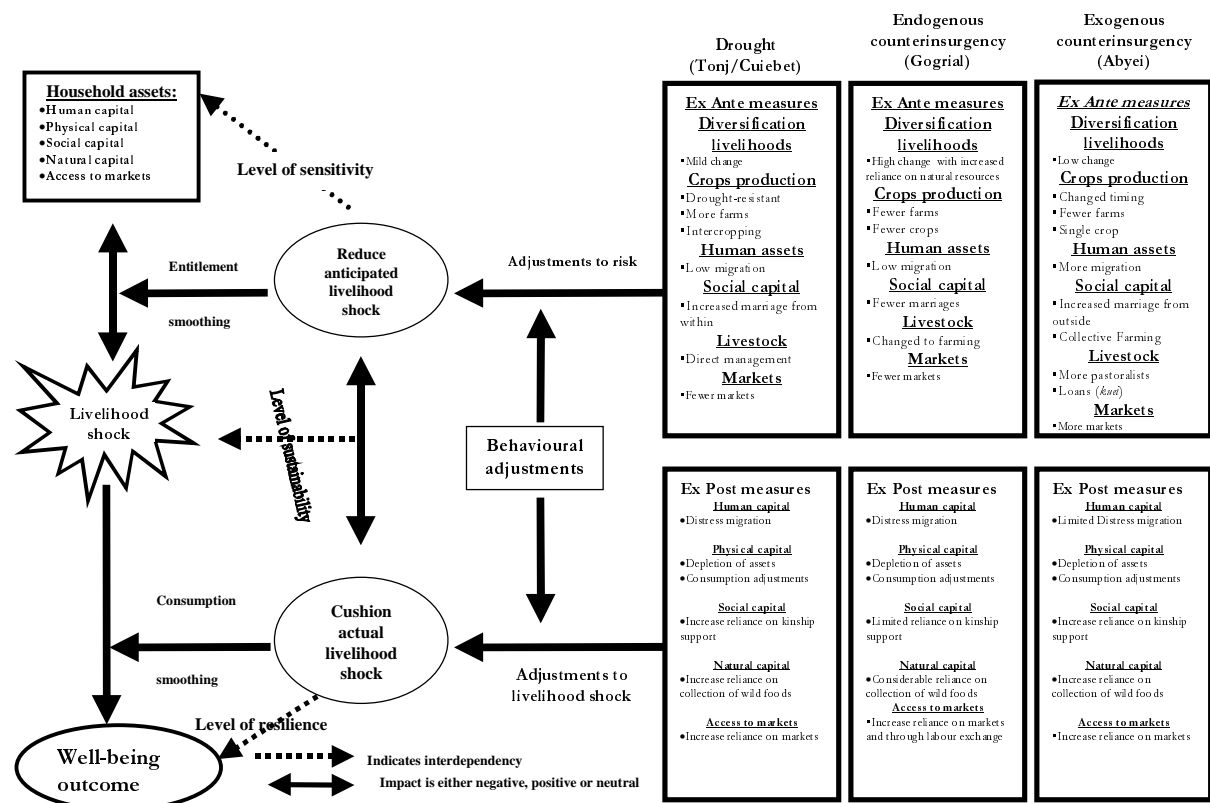
Interestingly, the households that are exposed to exogenous counterinsurgency warfare tend to be more cohesive with strong community-based risk-sharing arrangements, and they pursue (paradoxically) more progressive risk management objectives such as maximising expected returns (including economic, social and political) at any level of risk. The communities that are exposed to endogenous counterinsurgency warfare adopt more or less similar risk management strategies to those adopted by the communities exposed to exogenous counterinsurgency warfare, but they were not effective largely because of symmetric information. It is also apparent from fieldwork as shown in Figure 6.3 that the households exposed to the risk of civil war are relatively more vulnerable than those exposed to ecological risk.

Figure 6.3 Household risk management objectives and strategies



The findings about the level of diversification of livelihoods and assets of the three research communities during the 1990s in comparison to pre-conflict or drought periods are summarised in Figure 6.4 and discussed below.

Figure 6.4 Assets management strategies during civil war

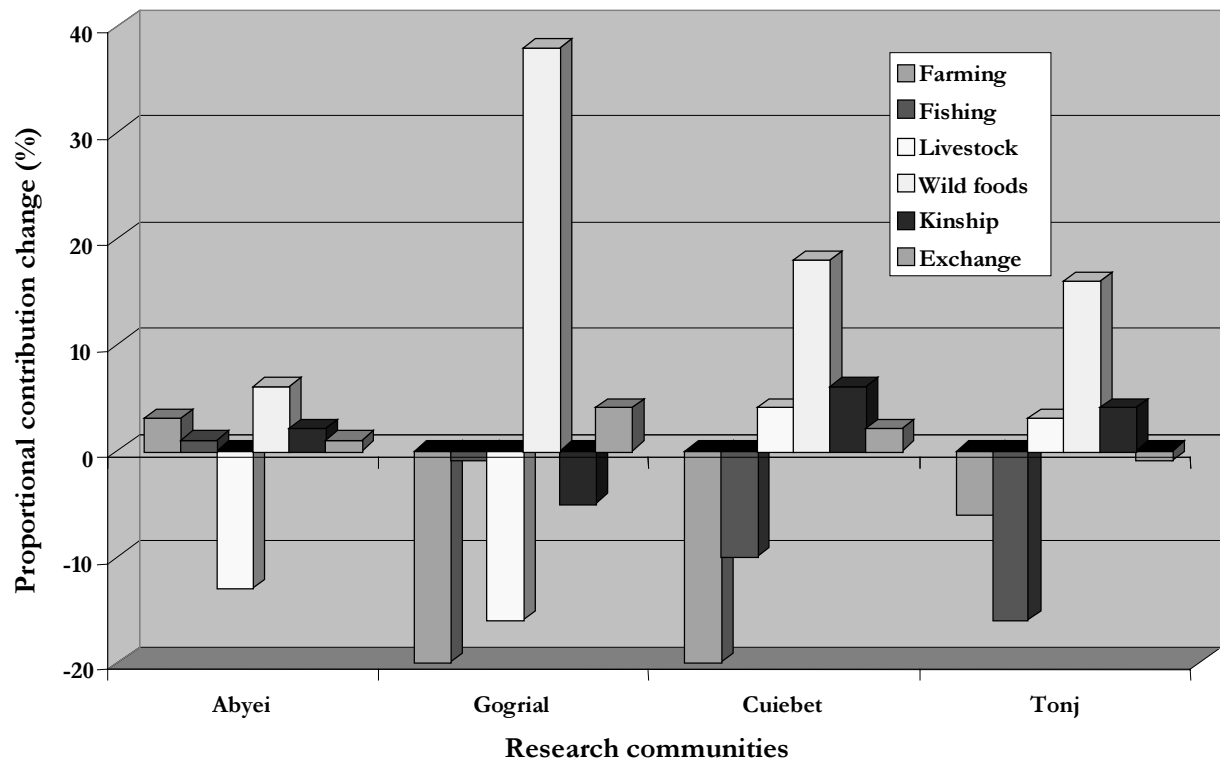


6.3.1 Livelihood diversification

Livelihood is generally defined in this research to include the whole portfolio of activities, including harvesting of natural resources, social support and access to markets, that are adopted by households to improve their standards of living and sustain their survival (Ellis 1998). Considering the level of changes²³ in household livelihood during the 1990s as a proxy indicator for the level of household livelihood diversification, we observe considerable changes in sources of livelihood of the research communities as shown in Figure 6.5.

²³ The levels of changes in the livelihoods during the 1990s compared to pre-conflict/drought periods were calculated from the percentage values attached through proportional piling by the communities to the various sources of livelihoods.

Figure 6.5 Changes in sources of livelihood in Bahr el Ghazal region, 1990s



Source: Community surveys

It is interesting to observe from Figure 6.5 that the communities that were exposed to endogenous counterinsurgency warfare (Gogrial) experienced considerable shift in their livelihood activities with increased reliance on the harvesting of natural resources. On the other hand, the communities that were exposed to exogenous risk events such as drought (Tonj and Cuiebet) and Arab militia (Abyei) did not experience a drastic change in their livelihood activities with the Abyei community experiencing a minimal level of livelihoods variability.

This change in the pattern of livelihood activities is quite significant and dramatic at household level, particularly among households exposed to endogenous counterinsurgency warfare (Gogrial) as shown in Table 6.3. For example, about 42 per cent of households in the Gogrial area that were agro-pastoralists became agriculturalists during the 1990s. Though households exposed to exogenous counterinsurgency warfare (Abyei) did not experience major changes in their sources of livelihood, about 14 per cent of households that were agro-pastoralists (mainly non-poor households) became pure pastoralists during the 1990s. Also about 86 per cent of households that were relying on trading in the Abyei area shifted to agro-pastoral livelihoods. The other households that were exposed to drought (Tonj and Cuiebet) did not undertake major changes in their sources of livelihood.

Table 6.3 Types of household livelihoods in the 1990s compared to pre-conflict periods

Type of risk event	Type of livelihoods in the 1990s	Type of household during pre-conflict periods		
		Agro-pastoralist	Agriculturalist	Trading
Exogenous counterinsurgency (Abyei)	Agro-pastoralist	149 (70%)	6 (3%)	11 (5%)
	Agriculturalist	6 (3%)	6 (3%)	1 (1%)
	Pastoralist	30 (14%)	1 (1%)	1 (1%)
Endogenous counterinsurgency (Gogrial)	Agro-pastoralist	120 (58%)	0 (0%)	0 (0%)
	Agriculturalist	85 (42%)	0 (0%)	0 (0%)
	Pastoralist	0 (0%)	0 (0%)	0 (0%)
Drought (Tonj/Cuiebet)	Agro-pastoralist	143 (97%)	0 (0%)	0 (0%)
	Agriculturalist	4 (3%)	0 (0%)	0 (0%)
	Pastoralist	0 (0%)	0 (0%)	0 (0%)

Source: Household survey/SPSS output

Whether such drastic changes in the livelihood patterns were proactive actions or reactive responses was well captured during the community focus group discussion. From the community focus group discussion, the adoption of pastoral livelihoods is a clear case of ex-ante measures to reduce exposure to risk events as agro-pastoralist livelihoods tend to force households to stationery and permanent settlements that are more exposed to counterinsurgency raids. The drastic change in the pattern of livelihoods in the Gogrial area was, rather, a reactive response because of the nature of endogenous counterinsurgency warfare, which deliberately targeted all traditional livelihood activities and forced people to increasingly depend on the harvesting of natural resources. Interestingly the adoption of a pastoralist livelihood by the non-poor households that were exposed to exogenous counterinsurgency warfare clearly suggests that diversification is not the best risk management strategies option. Such a relatively high risk-aversion behaviour by the non-poor households challenges at least in the context of civil war the posited argument that suggests risk aversion declines with wealth.

6.3.2 Crop production

Crop production is an important livelihood activity in Bahr el Ghazal region that allows households to adopt a wide range of diversification to reduce the anticipated and actual adverse effect of risk events. These forms of diversification in crop production include *enterprise* diversification (planting different crops and inter-cropping), *spatial* diversification (planting in different fields), *temporal* diversification (staggered plantings) and *varietal* diversification (e.g. use of drought-resistant varieties) (Siegel and Alwang 1999: 26). Other forms of diversification that are responses to uncertain resource availability include *input* diversification (using low-risk inputs), *market* diversification (alternative sources of purchasing inputs and selling outputs) and *vertical* integration (own production of inputs and own-processing of outputs).

Taking for example spatial diversification, the study finds that the households exposed to counterinsurgency warfare (Abyei and Gogrial) tend to have fewer farms compared to during the pre-conflict period, while drought-prone communities tend to have a higher number of different farms during

the 1990s as shown in Table 6.4. This finding further confirms that diversification is not the best risk management option for the households exposed to the risk of civil war. This finding also clearly challenges, at least in the context of civil war, the dominant argument in the risk literature that the more households are exposed to risk events the more they diversify to confront the risk events.

Table 6.4 Level of household farms spatial diversification in the 1990s

Type of risk event	Mean household farms in pre-conflict periods	Mean household farms in the 1990s
Exogenous counterinsurgency (Abyei)	1.9	1.3
Endogenous counterinsurgency (Gogrial)	4.6	1.8
Drought (Tonj)	3.0	4.1

Source: Household survey/SPSS output

Wilcoxon Signed Ranks Test

Type of risk event	Test statistics ^c	Number of household farms in the 1990s minus number of household farms in pre-conflict period
Exogenous counterinsurgency (Abyei)	Z	-6.297 ^a
	Asymp. Sign. (2-tailed)	0.000
Endogenous counterinsurgency (Gogrial)	Z	-12.472 ^a
	Asymp. Sign. (2-tailed)	0.000
Drought (Tonj)	Z	-4.876 ^b
	Asymp. Sign. (2-tailed)	0.000

^aBased on positive ranks.

^bBased on negative ranks.

^cWilcoxon Signed Ranks Test.

Also when considering enterprise diversification, the Abyei community, particularly poor households that used enterprise and spatial diversification in the pre-conflict period (Huntington, Ackroyd and Deng 1981), have opted during the 1990s to specialise and made best use of their surrounding markets by producing one crop (sorghum). The other communities widely used enterprise and varietal diversification. This finding further confirms that diversification is not the best risk management option for households exposed to counterinsurgency warfare and it is also consistent with earlier findings that show some non-poor households of the Abyei community opted to abandon an agro-pastoralist livelihood and to adopt instead a pastoralist livelihood. Interestingly, the poor households exposed to exogenous counterinsurgency warfare in the Abyei area opted to take specialised farming in a rather risky environment while non-poor households abandoned the risky farming activities and adopted pure pastoralist livelihoods.

6.3.3 Human assets

There is a growing recognition that investment in human assets, besides promoting broad-based economic growth, can also reduce susceptibility to risk (Siegel and Alwang 1999: 28). The households exposed to

risk events widely use spatial diversification of human assets in a form of permanent or seasonal migration. While permanent migration (when household members migrate and send back remittances) tends to be an ex-ante risk management measure, seasonal migration represents an ex-post short-term response at consumption smoothing or ex-ante strategy depending on its nature.

Using the data on permanent migration from the household surveys, households exposed to exogenous counterinsurgency warfare (Abyei) tend to have more members of household permanently migrated to northern Sudan than other communities that undertook migration during the famine in 1998, as shown in Table 6.5. While non-poor households in the Abyei area have more members migrated permanently than poor households; there is not much difference between poor and non-poor households in the other research communities. The households from the Abyei community have made best use of their position adjacent to northern Sudan, though a source of their susceptibility to risk events, by sending young members of the household to northern Sudan for job opportunities (with potential remittances) and education and importantly to avoid forced recruitment into the rebel forces.

Table 6.5 Level of household human asset spatial diversification in the 1990s

Type of risk event	Mean household members permanently migrated in the 1990s: Initial household wealth status		
	Poor	Middle	Rich
Exogenous counterinsurgency (Abyei)	2.7	4.1	4.6
Endogenous counterinsurgency (Gogrial)	0.6	0.5	0.8
Drought (Cuiebet)	0.2	0.3	0.1
Drought (Tonj)	0.9	1.0	0.9

Source: Household survey/SPSS output

An important aspect of permanent migration is the receipt of remittances by the household from its migrant members. Generally remittances play an important role in risk management as they usually tend to be inversely correlated with household income. In the context of Bahr el Ghazal region remittance receipts constitute major off-farm household activities in the lower-risk areas of northern Sudan with a minor but significant stabilising impact on household income in higher-risk areas of Bahr el Ghazal region. Comparing remittances received by households during famine in 1998, the Abyei community significantly received more remittances than other communities.

6.3.4 Livestock management

Animal husbandry, particularly cattle, is the primary feature of the Dinka economy and the significance of cattle goes beyond their economic value as they are used to maintain social relations, religious values and

political institutions.²⁴ The value of cattle in Dinka society is described by Lienhardt (1961: 27): cattle are ‘something to which men have assimilated themselves, dwelling upon them in reflection, imitating them in stylised action, and regarding them as interchangeable with human life in many social situations’. For Dinka society, cattle are not only part of their life but they are the life. Despite the effect of modernisation and monetisation of their economy and even wars, cattle are still pivotal to Dinka livelihoods.

The management of livestock during the pre-war period was very much conditioned by seasonality and organised around regular and seasonal migration between cattle camps in *toic* (swampy areas) and *baai* (permanent settlements or villages) that maximised the utilisation of livestock products and minimised the tension between animal husbandry and crops production. During the early rains (*ker*) the fields are planted and cattle gradually return to camp near the villages to provide milk. In the early of wet season (*ruel*) when mosquitoes increase, the cattle are brought home for protection in the cattle byres at night. By the end of *ruel* (*anyoiic*) when crops are ripe, the cattle begin to graze farther away from villages and as the pasture gets exhausted in winter (*rut*), the cattle are driven farther away along the upper reaches of the watercourses. During dry season (*mai*) the main cattle camps in *toic* begin to be used as water supplies and pastures become scanty near the permanent villages. Herding of cattle is generally collective except for the few cows kept permanently at home for milk. As a single family or household cannot protect its cattle alone, the cooperation of territorial groups – either a section of the tribe or a subsection – becomes necessary. Normally cattle are directly managed by the direct members of the family, mainly youths, with a few cases where cattle are entrusted or loaned to members outside the family.

During the civil war in the 1990s, when livestock became the object of looting and raiding by counterinsurgency warfare, the management of livestock changed considerably. Two of the possible options available to cattle owners were either to directly manage their livestock or to diversify their livestock by entrusting or “tethering” some animals to the custody of closest relatives or friends. The custom of giving cattle for custody known as “*kuei*” is normally practised by Dinka to minimise the risk of diseases or to disguise wealth in order to escape the risk of cattle being claimed in discharge of kinship or other obligations or the envy of less fortunate people. Other functions of *kuei* include: improving cross-breeding, creating space for one’s herd, a form of assistance to relatives or friends and to accumulate independent and concealed wealth particularly by young men (Deng, F. 1971).

According to the risk literature, and on the basis of the risk aversion and diversification argument, it is rational that the strategy of entrusting or loaning cattle (*kuei*) would be more practised during counterinsurgency warfare in the 1990s than direct management of cattle (Posner 1980). On the basis of the community survey, however, the practice of *kuei* declined considerably while direct management of livestock increased substantially during the 1990s among all the research communities except those exposed to exogenous counterinsurgency warfare. The adult male members of households are now

²⁴ In Dinka the names of men are derived from the colours of oxen and the names of women are derived from the colours of cows. The name of social structures such as tribe, *wut*, also means ‘cattle camp’ and clan, *gol/dhien*, also means ‘cattle hearth’ and this clearly shows the dominant position cattle occupy not only in the Dinka’s economic life, but also in shaping spirit and political institutions.

managing the livestock compared to youth management in the pre-conflict period. While about 14 per cent of households exposed to exogenous counterinsurgency warfare adopted pastoralist livelihoods as discussed earlier, the practice of *keui* slightly increased with custodians now being drawn more from maternal relatives rather than from paternal relatives or friends. This practice of *keui* increased among the households exposed to exogenous counterinsurgency warfare that has encouraged cooperation and trust.

6.3.5 Access to markets

Proximity to markets and infrastructure is a critical asset to households as it influences the availability and accessibility of goods and services as well as the level of household diversification of its cropping activities. In the context of counterinsurgency warfare in Bahr el Ghazal region, access to markets that are in the government-held areas plays a crucial role, not only in providing goods and services but also information related to risk events such as counterinsurgency warfare. This makes market diversification, alternative sources of purchasing inputs and selling outputs, a critical ex-ante risk management strategy for the households that are exposed to the risk of civil war.

Data on the level of household access to markets, particularly those markets located in the government-held areas as shown in Table 6.6, clearly indicates that the households exposed to exogenous counterinsurgency warfare (Abyei) have more access to markets than other communities. This comparative advantage of the Abyei community came as a result of their proximity to the main market in Abyei town, which is under the control of the government. This market is one of the largest livestock markets in Sudan and supplies the markets in Khartoum with good quality oxen from southern Sudan.

Table 6.6 Level of household access to markets in government-held areas in the 1990s

Type of risk event	Household access to markets in government-held areas	
	No	Yes
Exogenous counterinsurgency (Abyei)	22 (10%)	189 (90%)
Endogenous counterinsurgency (Gogrial)	159 (78%)	46 (22%)
Drought (Cuiebet/Tonj)	140 (95%)	7 (5%)

Source: Household survey/SPSS output

Symmetric measures

Types of measures	Statistical test	Value	Asymp. std. error ^a	Approx. T ^b	Approx. sign.
Ordinal by Ordinal	Kendall's tau-b	-0.653	0.024	-26.505	0.000
Number of valid cases		563			

^aNot assuming the null hypothesis.

^bUsing the asymptotic standard error assuming the null hypothesis.

Interestingly the Abyei market, because of its huge business potential, has encouraged the fighting parties (the government forces and the local rebel forces) to cooperate and to allow free movements of traders because of their vested economic interests. While the government forces in Abyei town virtually

monopolise the trading and market activities, the local rebel forces (SPLA) benefit from high taxes levied on traders and individuals who move in and out of the market. This practice around and in Abyei market confirms the observation made by Keen (1998: 12) that: 'the distinction between war and peace may be hazy, and the two may not necessarily be opposites. War can involve cooperation between "sides" at the expense of civilians'. The female members of households, because of their perceived neutral role that allows them easy movement, are becoming more involved in trading activities, particularly accessing markets in the government-held areas, than during the pre-conflict period. Besides these markets in the government-held areas, the local communities in the SPLM-held areas created local markets that allow free interactions between Arab nomads and Dinka communities. These markets, besides facilitating trading activities, become increasingly important as they provide fora for resolving grass-root conflict between Dinka and Arab nomads (Deng, L. 1999).

6.4 Social capital and counterinsurgency warfare

Though it is generally accepted that social assets, household social ties and networks, can provide a form of informal insurance, there is no conclusive agreement over their effectiveness. Siegel and Alwang (1999) argue that the effectiveness of investments in social capital depends on a social contract that can easily be broken in times when covariate risk simultaneously impacts on several members of the risk pool. Devereux (1999: 15) emphasises that generic shocks or covariate risks such as drought are likely to make social safety nets less effective when they are most needed. In the context of civil war and particularly counterinsurgency warfare it is widely argued and perceived that social capital is one of its first casualties and its absence perpetuates the occurrence of counterinsurgency warfare.

The Dinka saying, 'What is given circulates, and what is consumed is wasted', explains much about the importance and nature of reciprocal systems among the Dinka (Deng, F. 1971: 268). Dinka generally have social systems that work towards maintaining equality and are more egalitarian than most other societies. The social safety nets and traditional risk-pooling arrangements of the Dinka range from customary reciprocity exchanges to customary redistribution systems such as horizontal and vertical redistribution (Swift 1993; Deng, L. 1999). The traditional Dinka social safety nets are well rooted in their social relations (*cieng*), their notions of human dignity (*dbeeng*) and their communal ownership of wealth. The social relations of Dinka are largely determined and nurtured by marriage (*ruai*) and their notions of human dignity are reflected in values such as pride, hospitality and generosity. These distinctive characteristics of Dinka society such as gift-giving, reciprocal exchange, polygamy, bride wealth, the size of kinship, communal property rights, and the value placed on certain personality traits, such as generosity, can be explained as adaptations to risk, uncertainty or high information cost (Posner 1980; Grossbard 1978; Grossbard 1976; Demsetz 1967).

The Dinka communal right over property and wealth is primarily derived from their relationship to their Divinity (*yieth*) to which all wealth and property belong and individuals are entrusted control over wealth and property (Lienhardt 1961: 23). This mixture of individual and communal property rights among pastoralist societies is attributed by some economists (Demsetz 1967) to the scarcity of resources

involved. While there are social classes determined by wealth, there are no social barriers between these classes as the strong spirit of equality among the Dinka does not permit the rich to look down on the poor nor the poor to look up to the rich (Deng, F. 1971). The apparent emphasis on the human element in social relations is the main feature of Dinka society that bridges class barriers and conceals the evils of class differentiation. The virtues of wealth that are defined in the context of social prestige carry commensurate social responsibilities as the rich are socially bound to assist the needy.

This inseparable link between wealth and social responsibilities is well reflected in the Dinka words “*adheng*” and “*ajak*”, which mean “rich” and may also be translated as “kind”, “generous”, “gentle” or in a word “noble” (Deng, F. 1971: 251). Thus calling a person “rich” in Dinka is another way of describing what is expected of his relations with other people. The social relations in Dinka society; between man to man and man and community, as described by Deng, F. (1971) are such that the individual is naturally conscious of and responsive to the needs of others and such deferential Dinka aspects of wealth paradoxically limit having wealth.

In order to assess the status of social capital during civil war and counterinsurgency warfare in Bahr el Ghazal region in the 1990s, the contribution of social capital to the overall household livelihood and the level and role of marriage are discussed below.

6.4.1 Social capital and livelihood

The level of kinship support is used to proxy the level and status of social capital during civil war and counterinsurgency warfare in the 1990s. It is clear from Figure 6.3 that while the contribution of kinship support to the overall livelihood has considerably declined among households exposed to endogenous counterinsurgency (Gogrial), its contribution slightly increased in the context of exogenous counterinsurgency warfare (Abyei). This finding suggests that the nature of counterinsurgency warfare explains greatly the performance and status of social capital in the context of civil war. The nature of endogenous counterinsurgency warfare as experienced by the communities of Gogrial in the 1990s created a climate of mistrust and turned the community against itself and that resulted in weakened social capital, particularly their social safety nets and kinship support.

Besides the climate of mistrust created by endogenous counterinsurgency warfare, its profound depletion of assets such as livestock, particularly among the non-poor households, had greatly affected the social safety nets. Chief Ayii Madut of Gogrial rejected the argument that their *cieng* (way of life) has changed and attributed the weakened social safety nets in the 1990s to the erosion of their assets-base particularly livestock, which forced people to look inward and to struggle to save their own lives (Deng, L. 1999: 61). Chief Ayii Madut supported his argument by comparing the famine of 1988 with that of 1998, as people did not die in the same numbers because people, particularly the non-poor households, had livestock, which made them able to help poor households during the famine of 1988.

On the other hand, the exogenous counterinsurgency warfare that was experienced by the communities in the Abyei area in the 1990s strengthened solidarity among communities and subsequently enhanced their kinship support. This increased solidarity among households exposed to exogenous

counterinsurgency warfare (Abyei) could be explained by their increased reliance on collective farming in the 1990s. Unlike farming during the pre-conflict period, the main livelihood activity of the Abyei community, particularly crop production (sowing, weeding, harvesting and storage), was increasingly collectively performed through a traditional system known as *mat*²⁵ during the 1990s. This practice of *mat* has become obligatory on each member of a household and has remarkably strengthened kinship support, particularly during the raids of Arab militia as the relief of the affected households by such raids becomes the entire responsibility of unaffected households. The practice of *mat* as necessitated by the Arab militia counterinsurgency warfare has apparently increased not only crop production but has also renewed the generalised reciprocity and egalitarian values. Besides strengthening kinship support and providing livelihoods, the spirit and practice of *mat* has also been used and extended by the community of Abyei to mobilise themselves to provide a communal security force to protect them against Arab militia counterinsurgency warfare. The generalised perception and argument about the breakdown of social capital during civil war is not supported by the experience of the Abyei community during the 1990s and clearly suggests that the performance of social capital is context specific and largely determined by the nature of counterinsurgency warfare.

6.4.2 Marriage, diversification and social capital

The Dinka fabric of social relations and the basis of family are founded on marriage and bride wealth. When looking critically into the entire process of Dinka marriage, one finds in economic terms that the net flow of bride wealth will reach almost zero with immense social relations multipliers and wealth redistribution effects in the future. The important aspect of Dinka marriage is that it is not allowed within lineage (*alaraan*) or friendship (*maath*). Interestingly the word “marriage” (*ruai*) in Dinka is synonymous with the word “relationship” (*ruai*) as the Dinka see marriage in a wider context of social relationships (Deng, L. 1999: 62). These characteristics of marriage in Dinka society, make marriage an important and effective social diversification and insurance strategy for managing risks.

Marriage in Dinka society is an almost endless process that involves a series of claims, counter claims, obligations and transfers of livestock between groom and bride families and their extended families that usually engulfs the entire lineage and entire communities. The initial bride wealth (*bok ruai*) is a collective and legally enforced standardised contribution of cattle from the groom’s family, his mother’s family, his relatives-in-laws and friends (Deng, L. 1999). On the other hand the bride’s family upon receiving the bride wealth has a social obligation to pay (*arueth*) from their own cattle to the groom’s family to confirm mutual relationships and consolidate the social status and position of their daughter. Generally *arueth* is

²⁵ This traditional practice (*mat*) involves a regular system whereby each household within the community invites members of the community to perform a certain activity on its farm and the inviting household will in return provide food and local beer. Though this practice was performed on a limited scale during the pre-conflict period, it is now widely practised and becomes almost obligatory as the Arab militia raids necessitate an urgency in performing farming activities that is difficult for a household to perform alone. Failure of some households to participate in *mat* will result in social isolation and exclusion from social safety nets that are highly crucial during Arab militia raids and their future invitation to perform *mat* on their farms will not be honoured.

largely dependent on the amount of actual bride wealth and it reaches sometimes up to one third of the bride wealth. The family of the groom does not usually urge immediate payment of *arueth*, which is loosely paid over a longer period, particularly during times of high need. The process of payment of bride wealth (*hok ruai*) and *arueth* is also seen as an effective ex-ante risk management strategy as well as a process of cross-breeding as such cattle are carefully selected (Deng, L. 1999).

The process of marriage does not end with payment of bride wealth and *arueth* as a future series of payment and counter payment becomes obligatory on both sides of the families. One important payment is *arieke*, which is usually paid by the family of the bride to the groom when one of the designated younger sisters of the bride gets married and the number of cattle paid depends on the initial bride wealth. This marriage cycle goes on: when the daughter of the groom gets married the two families will be entitled to a standardised share from the bride wealth, and likewise the two families make standardised contributions to the marriage of the son. Throughout a woman's marital life, her agnatic kin maintain an interest in her affairs and come to her aid according to need, particularly when she does wrong to her husband when they usually appease him with a payment of a cow known as *weng awec* (Deng, F. 1972). It is apparent from this complex process of marriage that divorce among the Dinka is strongly abhorred, rare and socially and economically undesirable since the conditions for the return of bride wealth and other payments are extremely complex.

It is clear from the Dinka marriage system that the process of marriage involves strong social and economic relationships and binds people from different lineages with an effective system of claims and transfers of cattle, establishing an extremely interconnected society (Deng, L. 1999). This makes marriage an important spatial social diversification and proxy indicator to assess the status of social capital during civil war. While there is little evidence from sub-Saharan Africa, Rosenzweig (1988) finds a statistically significant negative covariation between rainfall in a groom's home community and the bride's community in India. This evidence supports the hypothesis that marriage is a means of insuring against covariate risk (Siegel and Alwang 1999; Posner 1980).

In order to assess the level of spatial diversification in social assets during the 1990s, I used the number of wives as a proxy indicator for investment in social capital. By comparing the number of wives per family during the 1990s in relation to the pre-conflict period in order to assess the level of spatial social diversification, it can be seen that households exposed to exogenous counterinsurgency warfare (Abyei) have had a significant increase in the number of wives as shown in Table 6.7. The households exposed to endogenous counterinsurgency warfare (Gogrial) as shown in Table 6.7 experienced the lowest and insignificant increase in the number of wives during the 1990s.

Table 6.7 Level of household social asset spatial diversification in the 1990s

Type of risk event	Number of wives per family in the 1990s compared to pre-conflict period		
	Increased	Decreased	The same
Exogenous counterinsurgency (Abyei)	93 (44%)	11 (5%)	107 (51%)
Endogenous counterinsurgency (Gogrial)	3 (2%)	18 (9%)	184 (89%)
Drought (Cuiebet)	44 (44%)	6 (6%)	49 (50%)
Drought (Tonj)	6 (13%)	9 (19%)	33 (68%)

Source: Household survey/SPSS output

Unlike the Cuiebet community, which was exposed to drought, the increased number of wives in the Abyei community during the 1990s occurred mostly outside the community. From the Abyei community survey, the proportion of men that used to marry from outside their community during pre-conflict periods was about 13 per cent and increased to about 30 per cent during civil war in the 1990s. Most of these marriages are now from the Twic area, which lies on the southern boundary of the Abyei area with a different agro-climatic environment and less exposed to risky events such as Arab militia counterinsurgency warfare. Besides a high number of marriages, the Twic area is becoming a safe haven for the people of the Abyei area for taking refuge for themselves (especially children and elderly) and livestock prior to Arab militia raids. The households from the Gogrial area did not experience more marriages during the 1990s, partly because of the depletion of their livestock by counterinsurgency warfare and largely because of the nature of risk that created division and mistrust among the communities.

This finding – a higher number of marriages among households exposed to exogenous counterinsurgency warfare (Abyei) than among other communities that have different environmental and risk conditions – concurs with the finding of Rosenzweig (1988) in India. As a result of this spatial social diversification together with other risk management strategies, the households exposed to exogenous counterinsurgency warfare (Abyei) did not experience famine mortality during the famine of 1998. This finding again shows that the performance of social capital is context specific and it is largely affected by the nature of counterinsurgency warfare. The experience of households exposed to exogenous counterinsurgency warfare (Abyei) during the 1990s supports the hypothesis that investing in social capital is an effective ex-ante risk management strategy, contrary to the common argument that questioned the efficacy of social capital during civil war.

6.5 Famine mortality and counterinsurgency warfare

There is a common consensus from the available risk literature on linking vulnerability to initial assets base, with poor households suffering proportionally greater welfare losses than non-poor for given levels of risk. This argument is rightly grounded in the fact that risk events are transmitted through household initial assets that neither cause nor trigger the occurrence of risky events. The finding of this study tends to suggest the contrary in the context of civil war, particularly in the situation where risk events such as

counterinsurgency warfare emerged from within the communities as was the case of the Gogrial community during the 1990s.

The measurement of risk outcomes is a complex endeavour as it is linked to vulnerability that is associated with a dynamic and complex process. This implies that risk outcome should be seen not as the last phase of vulnerability but rather as a broad concept that includes the entire process of increasing vulnerability. Various indicators such as sale of assets, forced migration, social disruption, destitution and mortality have been used in this study to attempt to measure risk outcome. For the purpose of this paper I used only famine mortality data during the famine of 1998 as a measure of risk outcome at the level of individual members of households.

Taking from the household survey the famine mortality data, initial household wealth status and research communities that represent the different sources and levels of risk events as well as risk management strategies adopted as discussed earlier, it is possible to partially test the link between famine mortality and initial household wealth. This link between famine mortality and initial household wealth will also shed light on the importance of the nature of counterinsurgency warfare and the efficacy of assets management strategies adopted by various research communities during the 1990s.

Using contingency tables to test whether famine mortality of the research communities and initial wealth status are independent, the results as shown in Table 6.8 clearly indicate in the context of endogenous counterinsurgency warfare (Gogrial) that the non-poor households experienced significant higher mean famine mortality than the poor households. On the other hand in the context of communities that were exposed to drought during the 1990s (Cuiebet and Tonj), the non-poor households experienced significant less mean famine mortality than poor households as shown in Table 6.8. The households that were exposed to exogenous counterinsurgency warfare (Abyei) paradoxically did not experience any excess mortality even among poor households during the famine of 1998.

In order to specifically assess the level of correlation between household initial wealth status and famine mortality, SPSS was used and the results are presented in Table 6.8. It is clear from Table 6.8 that the correlation between initial household wealth and famine mortality among households exposed to endogenous counterinsurgency warfare is significantly positive as indicated by a correlation coefficient of (+0.33). In the case of communities exposed to drought in the 1990s (Cuiebet and Tonj), the results of correlation between initial household wealth and famine mortality suggest inverse correlation coefficients (-0.63 and -0.59 respectively) that are significant. In the situation of households exposed to exogenous counterinsurgency warfare (Abyei), the results of correlation do not suggest any link between famine mortality and initial wealth as the community of Abyei did not experience any famine mortality.

Table 6.8 Level of household members mortality during famine in 1998

Type of risk event	Mean household members mortality during famine in 1998: Initial household wealth status		
	Poor	Middle	Rich
Exogenous counterinsurgency (Abyei)	0.0	0.0	0.0
Endogenous counterinsurgency (Gogrial)	0.6	1.2	2.1
Drought (Cuiebet)	4.0	1.2	0.3
Drought (Tonj)	3.9	1.8	0.5

Source: Household survey/SPSS output

Statistical Association Test

Type of risk event	Type of statistics	Test statistics	Association between household members Mortality in 1998 and household initial wealth
Exogenous counterinsurgency (Abyei)	Kendall's tau-b	Correlation coefficient	0
		Sig. (1-tailed)	0
		No. of cases	210
Endogenous counterinsurgency (Gogrial)	Kendall's tau-b	Correlation coefficient	0.330**
		Sig. (1-tailed)	0.000
		No. of cases	205
Drought (Cuiebet)	Kendall's tau-b	Correlation coefficient	-0.632**
		Sig. (1-tailed)	0.000
		No. of cases	99
Drought (Tonj)	Kendall's tau-b	Correlation coefficient	-0.594**
		Sig. (1-tailed)	0.000
		No. of cases	48

**Correlation is significant at the .01 level (1-tailed).

As discussed earlier, as the sample of households of various research communities was too small to represent the entire population, the qualitative data from the community survey is used to triangulate the results from household survey data. The qualitative data from the community survey suggests generally higher famine mortality among non-poor than poor households in the context of exogenous counterinsurgency warfare and higher famine mortality among poor households in the context of drought. For example in the context of the community exposed to endogenous counterinsurgency warfare (women's perspective), the qualitative data indicates that about 55 per cent of famine deaths in 1998 were from rich households, 24 per cent from middle and about 21 per cent from poor households. The qualitative data from male key informants suggests a similar trend: 54 per cent from rich households, 17 per cent from middle and 29 per cent from poor households. In the context of drought the qualitative data from the community survey in Tonj (women's perspective) suggests about 9 per cent of famine mortality were from rich households, 40 per cent from middle households and 51 per cent from poor households. The men's perspective suggests a very similar pattern: 13 per cent from rich households, 33 per cent from middle households and 54 per cent from poor households. Also the qualitative and

quantitative data from various community and household surveys consistently suggests higher famine mortality among male members of the household (men and boys) than among female members of the household (women and girls).

Though the qualitative data from the community survey might not be that precise, the qualitative trend strongly suggests a considerable and higher mortality among initially non-poor households than poor households in the context of households exposed to endogenous counterinsurgency warfare (Gogrial). This surprising finding of a positive and significant correlation between wealth and mortality in the context of counterinsurgency warfare (Gogrial) is related to the nature of risk that is triggered by the community assets and emanated from within the communities. The households in the Gogrial community had tried to adopt various risk management strategies that failed to be effective as these strategies were known by the government militia raiders who happened to be from within the communities and knew inside and detailed information about these strategies adopted by households. The households in the Gogrial area were forced to rely heavily on harvesting natural resources, particularly wild foods as shown in Figure 6.4. As a result the non-poor households suffered most in terms of rapid and sudden depletion of their livestock with considerable social and psychological trauma.

7 Conclusions

The rationale for this study emanated from the apparent dearth of information and understanding of risk-related behaviours of communities and households exposed to prolonged civil war and counterinsurgency warfare. The main purpose of the paper was to assess how households exposed to the risk of civil war, particularly counterinsurgency warfare, manage their assets to confront the anticipated and actual adverse effects of civil war. Specifically, the paper attempted to assess household asset management strategies by revisiting the arguments related to the causation of civil war, susceptibility to risk events, diversification, social capital, asset-vulnerability and famine mortality in the context of the Sudan civil war in the 1990s. This concluding section summarises the key findings of the study and risk literature review and draws some relevant policy implications.

7.1 Causation of civil war

The competing viewpoints about the causation of civil war, particularly greed and grievance, suggest that civil war is a complex phenomenon and context specific, so that it is extremely difficult to impute its causes to one factor or a few factors in isolation of other factors. It has been observed that the divergent views about the causes of civil war are strongly related to the fact that most researchers analyse conditions during civil war rather than pre-war conditions to assess causation. The limited research that has analysed the pre-war conditions tends to unambiguously attribute the conflicts to socio-economic and political grievances that are generated by unpopular policies of the ruling elite. It is not surprising to observe in the midst of civil war irrational behaviour and greed dominating this critical period as a means of sustaining the war activities of the fighting parties. It is argued in the paper that while civil wars are initially caused by

grievances, they are apparently sustained through economic agenda, greed and the privatisation of violence.

When focusing the discussion on the causation of civil war in the context of the Sudan civil war, the debate on the genesis and causes of the recurrent civil wars is rather divisive and far from settled. While most northern Sudanese, particularly the ruling elite, perceive the civil war as a southern problem and attribute its causes to external influences, most southerners see the causes of the recurrent civil war as deeply rooted in ethnicity and religion. This lack of consensus and common understanding about the causes of the Sudan civil war largely explains the stalemate in the efforts of reaching a comprehensive peace in the country. Critical analysis of the pre-war conditions in Sudan clearly shows that socio-economic inequalities between northern and southern Sudan in the early 1980s largely generated grievances that caused rebellion in southern Sudan. In the midst of civil war, the successive northern central governments resorted, with help from multinational corporations, to privatising violence by subcontracting the impoverished northern Arab pastoralists and defected rebel soldiers as militia to cheaply wage counterinsurgency warfare, which legitimised their greed and put them above the law in the rebel-held areas of southern Sudan. Also during the civil war, the northern ruling elites used religion and ethnicity for political mobilisation in northern Sudan in order to confront the political threat and rebellion from southern Sudan.

7.2 Susceptibility to risk events

The review of risk literature shows that civil war as a risk event is different from other risk events such as drought and economic shocks, particularly in terms of causation and exogenous assumptions about risk events. Unlike other risk events, civil wars are caused by grievances and sustained through greed, which negates the prevalent assets-susceptibility and assets-vulnerability arguments and suggests instead that counterinsurgency warfare is primarily triggered by the community and households assets. Greed, criminal acquisitive desire and economic agenda are the main features of the war economy, which are meant to cheaply wage and sustain the war efforts of the fighting parties through counterinsurgency warfare and insurrection. The generic analysis of the causation of civil war, however, conceals insight into and understanding of the dynamics of civil war, particularly counterinsurgency warfare, that need to be unravelled to better understand their bearing on rural livelihoods.

In the context of Sudan's civil war, two types of counterinsurgency warfare have been identified, namely, endogenous and exogenous counterinsurgency warfare. While endogenous counterinsurgency warfare is led by Dinka government militia and emanates from within the community, the exogenous counterinsurgency warfare is primarily waged by Arab government militia that come from outside the Dinka community. The characteristics of these two types of counterinsurgency warfare determine the level and efficacy of assets management strategies adopted by households exposed to them. The data from the household surveys indicates that non-poor households were significantly more susceptible to the risk of endogenous counterinsurgency warfare than poor households. This finding suggests that the level of household assets holdings is positively and significantly correlated with the occurrence of endogenous

counterinsurgency warfare and confirms the greed and economic agenda arguments during civil war. In the context of exogenous counterinsurgency warfare, however, poor and non-poor households experienced similar patterns of susceptibility to risk events, with non-poor households experiencing a slightly higher susceptibility that suggests a random pattern. This finding further confirms greed and economic agenda during civil war, at least at the community level, but, crucially, it also suggests that there are types of counterinsurgency warfare that project some characteristics that are similar to other types of risk event such as drought.

7.3 Diversification

Diversification is an important risk management strategy that is widely adopted by rural households to reduce the adverse effects of risk events. It is argued in the risk literature that the higher the risk the more households particularly poor households will diversify, as risk aversion declines with wealth. The data from the community and household surveys indicates that most non-poor households that were exposed to exogenous counterinsurgency warfare switched to pure pastoralist livelihoods instead of agro-pastoralist livelihoods, while most poor households maintained agro-pastoralist livelihoods with increasing focus on farming in a risky environment. In the context of endogenous counterinsurgency warfare, half of the households that were depending on agro-pastoralist livelihoods during pre-conflict periods, shifted to pure farming as the mainstay of their livelihoods, while other households maintained farming with small livestock during the 1990s. Even in crop production, households exposed to counterinsurgency warfare generally tended to have fewer farms than during pre-conflict periods, while households exposed to exogenous counterinsurgency warfare adopted mono-cropping (sorghum) instead of crops diversification as during pre-conflict periods.

These findings suggest that diversification is not the best risk management strategy option for households exposed to exogenous counterinsurgency, particularly in livelihood activities related to farming and livestock management. The fact that most non-poor households that were exposed to exogenous counterinsurgency warfare opted to adopt pastoralist livelihoods instead of agro-pastoralist livelihoods suggests that non-poor households are more risk averse than non-poor households that opted to sustain farming in a risky environment. The households that were exposed to endogenous counterinsurgency warfare adopted various risk management strategies that failed to perform effectively because of symmetric information between militia raiders and their victims.

7.4 Social capital

There is a common consensus that generic shocks or covariate risk make social safety nets less effective and even break down during civil war and counterinsurgency warfare that specifically targets social ties and networks. In order to assess the status of social capital during counterinsurgency warfare in the 1990s, two proxy indicators have been used, namely, kinship support and level of marriage. While the level of kinship support and marriage has increased among households exposed to exogenous counterinsurgency warfare (Abyei), it has substantially declined among the households exposed to endogenous

counterinsurgency warfare, partially because of depletion of their livestock. The nature of exogenous counterinsurgency warfare has paradoxically strengthened solidarity and cohesion within the community and has helped them to adopt strong community-based collective strategies (*mat*) to confront the risk of counterinsurgency warfare. On the other hand, the characteristics of endogenous counterinsurgency warfare experienced by the community of Gogrial in the 1990s have indeed weakened their social ties, relationships, networks and trust.

This finding clearly shows that while endogenous counterinsurgency warfare tends to erode social capital, exogenous counterinsurgency warfare strengthens solidarity and cohesion within the community. The common belief that civil war inevitably erodes social capital is not supported by the experience of the communities exposed to exogenous counterinsurgency warfare. This finding suggests again that civil war is complex and context specific and failure to unravel these dynamics could lead to an erroneous conclusion that social capital inevitably erodes during civil war.

7.5 Famine mortality

The study also found a strong and significant positive correlation between famine mortality and initial wealth, particularly among households exposed to endogenous counterinsurgency warfare, which is consistent with earlier findings of a positive correlation between initial wealth and exposure to risk. The nature and characteristics of exogenous counterinsurgency warfare greatly affected the efficacy of the risk management strategies adopted by households in the 1990s. This important finding strongly challenges the asset-vulnerability argument and entitlement approach, at least in the context of civil war, particularly among households that are exposed to the risk of endogenous counterinsurgency warfare. The study also found the normal inverse correlation between famine mortality and wealth among the households exposed to an exogenous risk event (drought). The households (poor and non-poor) that were exposed to exogenous counterinsurgency warfare (Arab militia) did not experience any famine mortality during the famine of 1998 mainly because of the effectiveness of their risk management strategies.

7.6 Policy implications

One of the important policy implications for those seeking to find sustainable peace in Sudan is to have a better understanding of the root causes of the recurrent civil wars. It is apparent from this paper that the current civil war in Sudan is not so much a senseless outbreak of violence that is caused by greed, but is rather a result of deeply rooted socio-economic and political grievances. The current civil war in Sudan should be seen as a genuine and extreme expression of the resource conflicts and a resistance bred by a pattern of uneven development and subsistence and economic crisis that created losers particularly among the rural majority population and southern Sudan in particular.

The primary causes of Sudan's recurrent civil wars have been shown clearly in the paper to be deeply rooted in the British colonial legacy and reinforced by multilateral institutions such as the World Bank, which sponsored uneven development that resulted in crisis in traditional subsistence livelihoods. As highlighted by Keen (1994: 233), 'it is one thing to condemn violence; it is another, and more useful,

exercise to sponsor a pattern of development that makes violence less likely'. Besides the multilateral, international and regional dimensions of the causes of Sudan's civil war, the multinational corporations have as well contributed to the causation of the current civil war and sustained it by indirectly sponsoring counterinsurgency warfare through extractive development of natural resources, which resulted in gross human rights abuses and massive displacement of the communities around the oilfields. The policy implication for those seeking to reach sustainable peace in Sudan is that the international community, including its multinational corporations, is part and parcel of the Sudan conflict and cannot escape some responsibility.

While emphasis on factors such as ethnicity and religion as the main cause of the Sudan civil war will determine and shape the desired solution, the paper has shown that Sudan has been failed by its ruling elite rather than by its ethnic and religious diversity *per se*. It is argued in the paper that ethnic and religious diversity is inevitable in any society and the way such diversity is used and nurtured by the society, and particularly by its ruling elite, largely determines the level of peaceful co-existence. Though an emphasis on the ethnic and religious diversity as the root cause of the Sudan conflict might help in finding peaceful solution in the short run, such emphasis will in future be profoundly disabling, divisive and destabilising, particularly in southern Sudan, which is characterised by diverse ethnic and religious groups. The policy implication is that whatever shape the current Sudan will take in the future, the need for an injection of development resources into the south is needed if long-standing deprivation and horizontal inequalities are not to lead to further conflict. The balanced, participatory and equitable development of rural livelihoods is crucially important for the sustenance of peace and co-existence of the various ethnic and religious groups in southern Sudan and the country at large.

The paper has clearly shown that counterinsurgency warfare has a more profound negative impact on rural livelihoods than the conventional warfare between the government and the rebels in southern Sudan. Furthermore, the paper has unravelled the counterinsurgency warfare and found that endogenous counterinsurgency warfare has more disastrous and far-reaching effects on household assets management including social capital than exogenous counterinsurgency warfare. One principal policy implication is that while the search for peace in Sudan focuses on the conventional warfare between the government and rebels movement, there is a need to address simultaneously the local conflicts and grievances that are fuelled by counterinsurgency warfare. Encouragement of local markets is one practical intervention that will help to normalise relations between communities and to reduce local tensions and grievances as well as encouraging grass-root peace-building initiatives.

The long-lasting and sustainable solution of the current conflict in Sudan rests with the international community to encourage and exert pressure on the fighting parties to create a conducive environment for the communities in the marginalised regions of Sudan to freely choose the appropriate political arrangements for the future state. Though the global values such as citizenship, basic human rights and democracy are likely to shape the peace efforts initiated by the international community, it is crucial that the will and choice of the people should be respected so as to avoid future conflict in Sudan.

References

- Acemoglu, D. and Robinson, J., 1999, 'A theory of political transitions', *CEPR Discussion Paper 2277*, London: Centre for Economic Policy Research
- Ahmed, A., 1983, 'Traditional Agriculture in Northern District of Southern Kordofan Province' in M.H. Awad (ed.), *Socio-economic Change in the Sudan*, Khartoum: University of Khartoum Press
- Alderman, H. and Paxson, C., 1992, 'Do the poor insure? A synthesis of the literature on risk and consumption in developing countries', *Agricultural Policy Research Working Papers* 1008, Washington, D.C.: World Bank
- Ali, T. and Matthews, R. (eds), 1999, *Civil Wars in Africa: roots and resolution*, Montreal, Kingston: McGill-Queen's University Press
- Anderson, R., Dillon, L. and Hardaker, B., 1977, *Agricultural Decision Analysis*, Ames: Iowa State University Press
- Annet, A., 1999, 'Ethnic and religious division, political instability, and government consumption', mimeo, Washington, D.C.: International Monetary Fund
- Antle, J., 1987, 'Econometric estimation of producer's risk attitudes', *American Journal of Agricultural Economics*, Vol 69 No 3: 509–22
- Arrow, K., 1971, *Essays in the Theory of Risk-Bearing*, Amsterdam: North-Holland
- Azam, J-P., 2001, 'The redistributive state and conflicts in Africa', *Journal of Peace Research*, 36: 429–44
- Baya, B., 1988, 'Aid at a Standstill' in N. Twose and B. Pogrud (eds), *War Wounds: development costs of conflict in Southern Sudan*, London: Panos Publications
- Bennett, J., 1987, *The Hunger Machine*, Cambridge: Polity Press
- Berdal, M. and Malone, D. (eds), 2000, *Greed and Grievances: economic agendas in civil wars*, London: Lynne Rienner Publishers
- Berry, L. and Geistfeld, S., 1983, *Eastern African Country Profile*, Worcester, Mass.: International Development Program, Clark University
- Binswanger, H., 1981, 'Attitudes towards risk: theoretical implications of an experiment in rural India', *Economic Journal*, Vol 91: 867–89
- 1980, 'Attitudes towards risk: experimental measurement in rural India', *American Journal of Agricultural Economics*, Vol 62 No 3: 395–407
- Binswanger, H. and Sillers, D., 1983, 'Risk aversion and credit constraints in farmers' decision-making: a reinterpretation', *Journal of Development Studies*, Vol 20 No 1: 5–21
- Brown, M. (ed.), 1993, *Ethnic Conflict and International Security*, Princeton: Princeton University Press
- Buchanan-Smith, M. and Davies, S., 1995, *Famine Early Warning and Response: the missing link*, London: Intermediate Technology Publications
- Campbell, D., 1998, *National Deconstruction: violence, identity and justice in Bosnia*, Minneapolis: University of Minnesota Press

- Carter, M., 1991, 'Risk, reciprocity and conditional self-insurance in the Sahel: measurement and implications for the trajectory of agricultural development in West Africa', *Department of Agricultural Economics Staff Paper 333, Milwaukee: University of Wisconsin*
- Cater, N., 1986, *Sudan: the roots of famine*, Oxford: Oxfam
- Chambers, R. (ed.), 1989, 'Vulnerability: how the poor cope', *IDS Bulletin*, Vol 20 No 2: 1–7
- Choucri, N., 1986, 'Demographics and conflict', *Bulletin of the Atomic Scientists*, Vol 42: 24–5
- Christian Aid, 2001, *The Scorched Earth: oil and war in Sudan*, London: Christian Aid
- Cliffe, L. and Luckham, R., 2000, 'What happens to the state in conflict? Political analysis as a tool for planning humanitarian assistance', *Disasters*, Vol 24 No 4: 314–42
- 1998, 'Complex political emergencies and the state: towards an understanding of recent experiences and an approach for future research', *COPE Working Paper 2*, Centre for Development Studies, University of Leeds
- Coate, S. and Ravallion, M., 1993, 'Reciprocity without commitment: characterization and performance of informal insurance arrangements', *Journal of Development Economics*, Vol 40: 1–24
- Collier, P., 2000, 'Economic causes of civil conflict and their implications for policy', mimeo, Washington, D.C.: World Bank
- 1998, 'The political economy of ethnicity', *CSAE Working Paper 98/8*, Oxford: Centre for the Study of African Economies
- Collier, P., and Hoeffler, A., 1998, 'On economic causes of civil war', *Oxford Economic Papers*, 50: 563–73
- Collier, P., Elbadawi, I. and Sambanis, N., 2000, 'Why are there so many civil wars in Africa? Prevention of future conflicts and promotion of inter-group cooperation', *The Economics of Crime and Violence*, Washington, D.C.: World Bank
- Daly, M., 1993, 'Broken Bridge and Empty Basket: the political and economic background of the Sudanese civil war' in M. Daly and A. Sikainga, *Civil War in the Sudan*, London: British Academic Press
- Davies, S., 1996, *Adaptable Livelihoods: coping with food insecurity in the Malian Sahel*, London: Macmillan
- 1993, 'Are coping strategies a cop out?', *IDS Bulletin*, Vol 24 No 4: 60–72
- Demsetz, H., 1967, 'Toward a theory of property rights', *American Economic Review*, 57: 347–53
- de Waal, A., 1997, *Famine Crimes: politics and disaster relief industry in Africa*, Oxford: James Currey
- 1996, 'Contemporary warfare in Africa: changing context, changing strategies', *IDS Bulletin*, Vol 27 No 3
- 1993, 'War and famine in Africa', *IDS Bulletin*, Vol 24 No 4: 33–40
- Dean, R., 2000, 'Rethinking the civil war in Sudan', *Civil Wars*, Vol 3 No 1: 71–91
- Deaton, A., 1992, 'Saving and income smoothing in Côte d'Ivoire', *Journal of African Economies*, Vol 1 No 1: 24
- Deng, F., 1995, *War of Visions: conflict of identities in the Sudan*, Washington, D.C.: Brookings Institution
- 1972, *The Dinka of the Sudan*, Illinois: Waveland Press

- 1971, *Tradition and Modernization: a challenge for law among the Dinka of the Sudan*, New Haven: Yale University Press
- Deng, L., 1999, 'Famine in the Sudan: causes, preparedness and response: a political, social and economic analysis of the 1998 Bahr el Ghazal famine', *IDS Discussion Paper 369*, Brighton: Institute of Development Studies
- 1989, 'The worldwide economic conditions, the debt build-up and the adjustments of the developing countries in the 1980s', MA thesis, Department of Economics, Catholic University of Leuven, Belgium
- Dercon, S., 1993, 'Risk, crop choice and savings: evidence from Tanzania', *CSAE Working Papers 93/2*, Oxford: Centre for the Study of African Economies
- de Soysa, I., 2000, 'The Resource Curse: Are Civil Wars Driven by Rapacity or Paucity?' in M. Berdal and D. Malone (eds), *Greed and Grievances: economic agendas in civil wars*, London: Lynne Rienner Publishers
- Devereux, S., 2001, 'Famine in Africa', Chapter 5 in S. Devereux and S. Maxwell (eds), *Food Security in Sub-Saharan Africa*, London: ITDG Publishing
- 2000, 'Famine in the twentieth century', *IDS Working Paper 105*, Brighton: Institute of Development Studies
- 1999, 'Making less last longer: informal safety nets in Malawi', *IDS Discussion Paper 373*, Brighton: Institute of Development Studies
- 1993, 'Goats before ploughs: dilemmas of household response sequencing during food shortages', *IDS Bulletin*, Vol 24 No 4: 52–59
- Duffield, M., 2000, 'Globalization, Transborder Trade, and War Economies', in M. Berdal and D. Malone (eds), *Greed and Grievances: economic agendas in civil wars*, London: Lynne Rienner Publishers
- 1993, 'NGOs, disaster relief and asset transfer in the Horn: political survival in a permanent emergency', *Development and Change*, Vol 24: 131–57
- Eckstein, H., 1965, 'On the etiology of internal wars', *History and Theory*, Vol IV, No 2: 133–63
- EIU, 1996–2000, 'Sudan', *EIU Country Reports*, London: Economist Intelligence Unit
- Elbadawi, I. and Sambanis, N., 'Why are there many civil wars in Africa? Understanding and preventing violent conflict', *Journal of African Economies*, Vol 9 No 3: 244–69
- Ellingsen, T., 2000, 'Colorful community or ethnic witches' brew?', *Journal of Conflict Resolution*, Vol 44 No 2: 228–49
- Ellis, F., 1998, 'Household strategies and rural livelihood diversification', *Journal of Development Studies*, Vol 35 No 1: 1–38
- Gagnon, G. and Ryle, J., 2001, *Report of an Investigation into Oil Development, Conflict and Displacement in Western Upper Nile, Sudan*, Canada: Sudan Interagency Reference Group of Canada
- Garang, J., 1987, *John Garang Speaks*, London: Kegan Paul International
- Glewwe, P. and Hall, G., 1998, 'Are some groups more vulnerable to macroeconomic shocks than others? Hypothesis tests based on panel data from Peru', *Journal of Development Economics*, Vol 56: 181–206

- Goodhand, J., Hulme, D. and Lever, N., 2000, 'Social capital and the political economy of violence: a case study of Sri Lanka', *Disasters*, Vol 24 No 4: 390–406
- Green, R., 1997, 'Bureaucracy and Law and Order' in J. Faundez (ed.), *Good Government and the Law*, Basingstoke: St. Martin's Press
- Grisley, W., 1980, 'Effect of risk and risk aversion on farm decision-making: farmers in northern Thailand', PhD thesis, University of Illinois
- Grossbard, A., 1978, 'Toward a marriage between economics and anthropology and a general theory of marriage', *American Economic Review*, 68
- 1976, 'An economic analysis of polygyny: the case of Maiduguri', *Current Anthropology*, 17
- Gurr, T. (ed.), 1970, *Why Men Rebel*, Princeton: Princeton University Press
- Hampson, F. and Malone, D. (eds), 2002, *From Reaction to Conflict Prevention: opportunities for the UN System*, London: Lynne Rienner Publishers
- Hansch, S., 1996, personal communications for Marc Cohen and Jashinta D'Costa
- Hazell, P., 1982, 'Application of risk preference estimates in firm-household and agricultural sector models', *American Journal of Agricultural Economics*, Vol 64 No 2: 385–90
- Hendrickson, D., Mearns, R. and Armon, J., 1996, 'Livestock raiding among the pastoral Turkana of Kenya: redistribution, predation and the links to famine', *IDS Bulletin*, Vol 27 No 3: 17–30
- Herbst, J., 2001, 'The politics of revenue sharing in resource-dependent states', *Discussion Paper 2001/43*, Helsinki: United Nations University/World Institute for Development Economics Research
- Homer-Dixon, T. (ed.), 1999, *Environment, Scarcity and Violence*, Princeton: Princeton University Press
- 1995, 'The ingenuity gap: can poor countries adapt to resource scarcity', *Population and Development Review*, Vol 21 No 3: 587–612
- Horowitz, D., 1985, *Ethnic Groups in Conflict*, Berkeley: University of California Press
- Human Rights Watch, 1999, *Famine in Sudan, 1998: the human rights causes*, New York: Human Rights Watch
- Huntington, R., Ackroyd, J. and Deng, L., 1981, 'The challenge for rainfed agriculture in western and southern Sudan: lessons from Abyei', *Africa Today*, 2: 43–53
- Huntington, S., 1996, *The Clash of Civilizations and the Remaking of World Order*, New York: Simon and Schuster
- Kaldor, M., 1999, *New and Old Wars: organized violence in a global era*, Cambridge: Polity Press
- Kaplan, R., 1994, 'The coming anarchy', *Atlantic Monthly*, January
- Kaufmann, C., 1996, 'Possible and impossible solutions to ethnic civil wars', *International Security*, 20
- Kebbede, G., 1999, 'Losing Ground: land impoverishment in Sudan' in G. Kebbede, *Sudan's Predicament: Civil War, Displacement and Ecological Degradation*, Aldershot: Ashgate Publishing
- Keen, D., 2000, 'Incentives and Disincentives for Violence' in M. Berdal and D. Malone (eds), *Greed and Grievances: economic agendas in civil wars*, London: Lynne Rienner Publishers
- 1998, 'The economic functions of violence in civil wars', *Adelphi Paper 320*, Oxford: International Institute for Strategic Studies
- 1997, 'A rational kind of madness', *Oxford Development Studies*, Vol 25 No 1: 67–75

- 1994, *The Benefits of Famine: a political economy of famine in South-west Sudan, 1983–1989*, Princeton: Princeton University Press
- Khalid, M., 1990, *The Government They Deserve: the role of the elite in Sudan's political evolution*, London: Kegan Paul International
- Lako, G., 1982, 'The Jonglei Canal as a Socio-Economic Factor in the Civil War in Sudan' in M. Darkoh (ed.), *African River Basins and Dryland Crises*, Uppsala: Department of Human and Physical Geography, Uppsala University
- 1982, 'The impact of the Jonglei Scheme on the economy of the Dinka', *African Affairs*
- Lautze, S. and Zandvliet, L., 2000, 'The encounter between humanitarian and transnational corporations: the case of oil exploration in Sudan', unpublished paper, Massachusetts: Feinstein International Famine Center
- Le Billon, P., 1999, 'A land cursed by its wealth? Angola's war economy 1975–99', *Research in Progress* 23, Helsinki: United Nations University/World Institute for Development Economics Research
- Lesch, A., 1998, *Sudan Contested National Identities*, Oxford: James Currey
- Lienhardt, G., 1961, *Divinity and Experience: the religion of the Dinka*, Oxford: Clarendon Press
- Luckham, R., Ahmed, I., Muggah, R. and White, S., 2001, 'Conflict and poverty in sub-Saharan Africa: an assessment of the issues and evidence', *IDS Working Paper* 128, Brighton: Institute of Development Studies
- Malaquias, A., 2001, 'Diamonds are a guerrilla's best friend: the impact of illicit wealth on insurgency strategy', *Third World Quarterly*, Vol 22 No 3: 311–25
- Marchione, T., 1996, 'The right to food in the post-cold war era', *Food Policy*, Vol 12 No 1: 83–102
- Mauro, P., 1995, 'Corruption and growth', *Quarterly Journal of Economics*, CX: 681–712
- Mawson, A., 1990, 'Murahaleen raids on the Dinka, 1985–89', *Disasters*, Vol 15 No 2
- Mearsheimer, J. and Evera, S., 1995, 'When peace means war', *New Republic*
- Messer, E., Cohen, M. and D'Costa, J., 'Food from peace: breaking the links between conflict and hunger', *Food, Agriculture, and the Environment Discussion Paper* 24, Washington, D.C.: International Food Policy Research Institute
- Moore, M. and Putzel, J., 1999, 'Politics and poverty: a background paper for the World Development Report 2000–1', mimeo, Brighton: Institute of Development Studies
- Morduch, J., 1995, 'Income smoothing and consumption smoothing', *Journal of Economic Perspectives*, Vol 9: 103–14
- 1991, 'Consumption smoothing across space: tests for village-level response to risk', mimeo, Cambridge, Mass.: Harvard University
- Moscardi, E. and de Janvry, A., 1977, 'Attitudes toward risk among peasants: an econometric approach', *American Journal of Agricultural Economics*, Vol 59 No 4: 710–16
- Moser, C., 1998, 'The asset vulnerability framework: reassessing urban poverty reduction strategies', *World Development*, Vol 26 No 1: 1–19

- 1996, 'Confronting crisis: a comparative study of household responses to poverty and vulnerability in four poor urban communities', *Environmentally Sustainable Development Studies and Monographs* 8, Washington, D.C.: World Bank
- Moser, C. and J. Holland, 1997, 'Household responses to poverty and vulnerability, Vol 4: confronting crisis in Cawama, Lusaka, Zambia', *Urban Management Programme Report* 24, Washington, D.C.: The World Bank
- Myers, N., 1987, 'Population, environment, and conflict', *Environmental Conservation*, Vol 14 No 1: 15–22
- Nachmias, C. and Nachmias, D., 1996, *Research Methods in the Social Sciences*, London: St. Martin's Press
- Norusis, M., 1997, *SPSS 7.5 Guide to Data Analysis*, New Jersey: Prentice-Hall
- Popkin, S., 1979, *The Rational Peasant: the political economy of rural society in Vietnam*, Berkeley: University of California
- Posen, B., 1993, 'The security dilemma and ethnic conflict', *Survival*, 35
- Posner, R., 1980, 'A theory of primitive society, with special reference to law', *Journal of Law and Economics*, Vol 23, No 1
- Prendergast, J., 1990, *The Struggle for Sudan's Soul*, Washington, D.C.: Centre of Concern
- 1989, 'Bloody money: World Bank and IMF to the rescue', *Africa Today*, Vol 36 No 4: 43–53
- Puri, B., 1996, *Statistics in Practice: an illustrated guide to SPSS*, Oxford: Oxford University Press
- Reardon, T., 1997, 'Using evidence of household income diversification to inform study of the rural nonfarm labor market in Africa', *World Development*, Vol 25 No 5: 735–47
- Reno, W., 2000, 'Shadow States and the Political Economy of Civil Wars' in M. Berdal and D. Malone (eds), *Greed and Grievances: economic agendas in civil wars*, London: Lynne Rienner Publishers
- Reynal-Querol, M., 2001, 'Ethnicity, political systems and civil wars', *The Economics of Crime and Violence*, Washington, D.C.: World Bank
- Riezler, K., 1943, 'On the psychology of the modern revolution', *Social Research*, X: 320–36
- Rodeghier, M., 1996, *Survey with Confidence: a practical guide to survey research using SPSS*, Chicago: SPSS
- Rosenzweig, M., 1988, 'Risk, implicit contracts and the family in rural areas of low-income countries', *Economic Journal*, Vol 98 No 4: 1148–70
- Rosenzweig, M. and Binswanger, H., 1993, 'Wealth, weather risk and the composition and profitability of agricultural investments', *Economic Journal*, 103: 56–78
- Rosenzweig, M. and Stark, O., 1989, 'Consumption smoothing, migration, and marriage: evidence from rural India', *Journal of Political Economy*, Vol 97 No 4: 905–26
- Sachs, J. and Warner, A., 1999, 'Natural resource abundance and economic growth', *NBE* 5398, Boston: National Bureau of Economic Research
- Sambanis, N., 2000, 'Partition as a solution to ethnic war: an empirical critique of the theoretical literature', *World Politics*, 52
- Scoones, I., 1998, 'Sustainable rural livelihoods: a framework for analysis', *IDS Working Paper* 72, Brighton: Institute of Development Studies

- Scott, J., 1976, *The Moral Economy of the Peasant: rebellion and subsistence in Southeast Asia*, New Haven: Yale University Press
- Seaman, J., 1993, 'Famine mortality in Africa', *IDS Bulletin*, Vol 24 No 4: 27–32
- Sen, A., 1981, *Poverty and Famines: an essay on entitlement and deprivation*, Oxford: Oxford University Press
- Siegel, P. and Alwang, J., 1999, 'An asset-based approach to social risk management: a conceptual framework', *Social Protection Discussion Paper 99/26*, Washington, D.C.: World Bank
- Sillers, D., 1980, *Measuring Risk preferences of rice farmers in Nueva Ecija, Philippines: an experimental approach*, New Haven: Yale University
- Sivard, R., 1996, *World Military and Social Expenditures*, Washington, D.C.: World Priorities
- SPSS, 1998, *SPSS Basic 8.0 for Windows User's Guide*, Chicago: SPSS
- Stewart, F., 2002, 'Horizontal Inequalities as a Source of Conflict' in F. Hampson and D. Malone (eds) *From Reaction to Conflict Prevention: opportunities for the UN system*, London: Lynne Rienner Publishers
- Stewart, F., Humphreys, F. and Lea, N., 1997, 'Civil conflict in developing countries over the last quarter of a century: an empirical overview of economic and social consequences', *Oxford Development Studies*, Vol 25 No 1: 11–41
- Suliman, M., 1999, 'Civil War in Sudan: the impact of ecological degradation' in G. Kebbede, *Sudan's Predicament: Civil War, Displacement and Ecological Degradation*, Aldershot: Ashgate Publishing
- Swift, J. (ed.), 1996, 'War and rural development in Africa', *IDS Bulletin*, Vol 27 No 3
- 1993, 'Understanding and preventing famine and famine mortality', *IDS Bulletin*, Vol 24 No 4: 1–16
- 1989, 'Why are rural people vulnerable to famine?', *IDS Bulletin*, Vol 20 No 2
- Townsend, R.M., 1995, 'Consumption insurance: an evaluation of risk-bearing system in low-income countries', *Journal of Economic Perspectives*, Vol 9: 83–102
- Turton, D. (ed.), 1997, *War and Ethnicity: global connection and local violence*, New York: University of Rochester Press
- Tvedt, T., 1986, *Water and Politics: a history of the Jonglei Project in the Southern Sudan*, Bergen: Derap
- Udry, C., 1990, 'Credit markets in Northern Nigeria: credit as insurance in a rural economy', *World Bank Economic Review*, Vol 4 No 3
- von Braun, J., Teklu, T. and Webb, P., 1998, *Famine in Africa: causes, responses, and prevention*, Baltimore: Johns Hopkins University Press
- Wakoson, E., 1993, 'The Politics of Southern Self-government 1972–83' in M. Daly and A. Sikainga, *Civil War in the Sudan*, London: British Academic Press
- Walker, T., 1980, 'Decision making by farmers and by the National Agricultural Research program on the adoption and development of maize varieties in El Salvador', PhD dissertation, Stanford Food Research Institute, Stanford, California
- Wolfenstein, V., 1967, *The Revolutionary Personality: Lenin, Trotsky, Gandhi*, Princeton: Princeton University Press
- World Bank, 1990, *World Development Report 1990: Poverty*, New York: Oxford University Press for the World Bank

- Yongo-Bure, B., 1993, 'The Underdevelopment of the Southern Sudan Since Independence' in M. Daly and A. Sikainga, *Civil War in the Sudan*, London: British Academic Press
- Zimmerman, F. and Carter, M., 1996, 'Dynamic portfolio management under risk and subsistence constraints in developing countries', *Staff Paper* 402, Madison: University of Wisconsin