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Livelihoods, Landmines and Cluster Bombs

Assessing the impact of contamination and clearance on the livelihoods of conflict affected communities in South Lebanon

Clare Collingwood Esland

The 1997 and 2008 UN Conventions on anti-personnel mines and cluster munitions mobilised the clearance of millions of square metres of land globally. Yet despite this success, concerns persist. Whilst areas of land made safe and numbers of items destroyed were systematically monitored, understanding the impact on livelihoods remains a goal of practitioners and policy-makers alike. This research explores the impact mines and cluster munitions, and their clearance, had on 66 households and in two communities in southern Lebanon. These communities lie within 20 kilometres of the United Nations delineated Blue Line: the militarised Lebanon/Israel border.

The research had academic and applied objectives. It was guided by the following questions: How does contamination impact upon livelihoods? What impact does clearance have on livelihoods and local development spaces? And, how can any variations in the impact of contamination and clearance on livelihoods, within and across the field sites, be explained? Methodologically, it explored the implications of analysing livelihood change in insecure contexts. Literatures on livelihoods, well-being, disaster risk reduction, post-colonialism and political economy of conflict are used to ground the analysis and discussion: drawn together through the lenses of vulnerability and resilience.

The findings highlight that contamination and clearance unsettled and reworked livelihoods and livelihood security in the field sites. Contamination caused costs to livelihood capitals. It led to threat avoidance, containment and confrontation mechanisms, to cope with, and adapt to, its presence. Where clearance followed, benefits associated with 'undoing' the costs of contamination on livelihood were found. Yet, impact was differentiated between and within communities. Further impact was non material as well as material and linked to an understanding of livelihoods as resistance. This highlights the need to see the impact of mine action 'in the round'; attuned to context and the economic, political, social and cultural dimensions and insecurities of everyday living that this may imply. This may unsettle the assumptions upon which the conceptualisations of impact, and hence how it is primarily examined, have appeared to fall within mine action.

Keywords: Mine action, livelihoods, well-being, vulnerability, resilience and resistance.

Livelihoods, Landmines And Cluster Bombs

Assessing the impact of contamination and clearance on the livelihoods of conflict affected communities in South Lebanon

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LIST OF ABBREVIATIONS

ALARA	As Low As Reasonably Acheiveable
BACTEC	Battle Area Clearance, Training, Equipment and Consultancy
DARG	Developing Areas Research Group
DRR	Disaster Risk Reduction
DFID	Department for International Development
ERW	Explosive Remnants of War
ESCWA	United Nations Economic and Social Commission for Western Asia
ESRC	Economic and Social Research Council
ESS	End State Strategy
GDP	Gross Domestic Product
GNI	Gross National Income
GPS	Global Positioning Systems
HH	Household
HRW	Human Rights Watch
IAT	Impact Assessment Tool
ICBL	International Campaign to Ban Landmines
IDF	Israeli Defence Force
IDP	Internally Displaced Person
IFES	International Foundation for Electoral Systems
ILO	International Labour Organisation
IMAS	International Mine Action Standards
IMF	International Monetary Fund
IMM	Impact Monitoring Manual
IMSMA	Information Management System for Mine Action
LAF	Lebanese Armed Forces
LBP	Lebanese Pounds

LIS	Landmine Impact Survey
LMAC	Lebanese Mine Action Centre
LTP	Long Term Plan
MAG	Mines Advisory Group
MRE	Mine Risk Education
NDO	National Demining Office
ODI	Overseas Development Institute
OPT	Occupied Palestinian Territories
PAR	Pressure and Release
PCIA	Post Conflict Impact Assessment
PIPs	Policies, Institutions and Processes
PLA	Participatory Learning and Action
PLO	Palestinian Liberation Organisation
PRIO	Peace Research Institute of Oslo
RMAC	Regional Mine Action Centre
SALW	Small Arms Lights Weapons
SLA	South Lebanese Army
SLF	Sustainable Livelihoods Framework
TSP	Transforming Structures and Processes
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIFIL	United Nations Interim Force in Lebanon
UNMAS	United Nations Mine Action Service
UNRWA	United Nations Relief and Works Agency for Palestinian Refugees in the Near East
US	United States of America
UXO	Unexploded Ordnance

STATEMENT OF COPYRIGHT

“The copyright of this thesis rests with the author. No quotation from it should be published without the author's prior written consent and information derived from it should be acknowledged.”

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DEDICATION

For all those who continue to live on unsafe land.

CHAPTER 1 INTRODUCTION LEBANON, LIVELIHOODS AND MINE ACTION

1.1 Starting Points

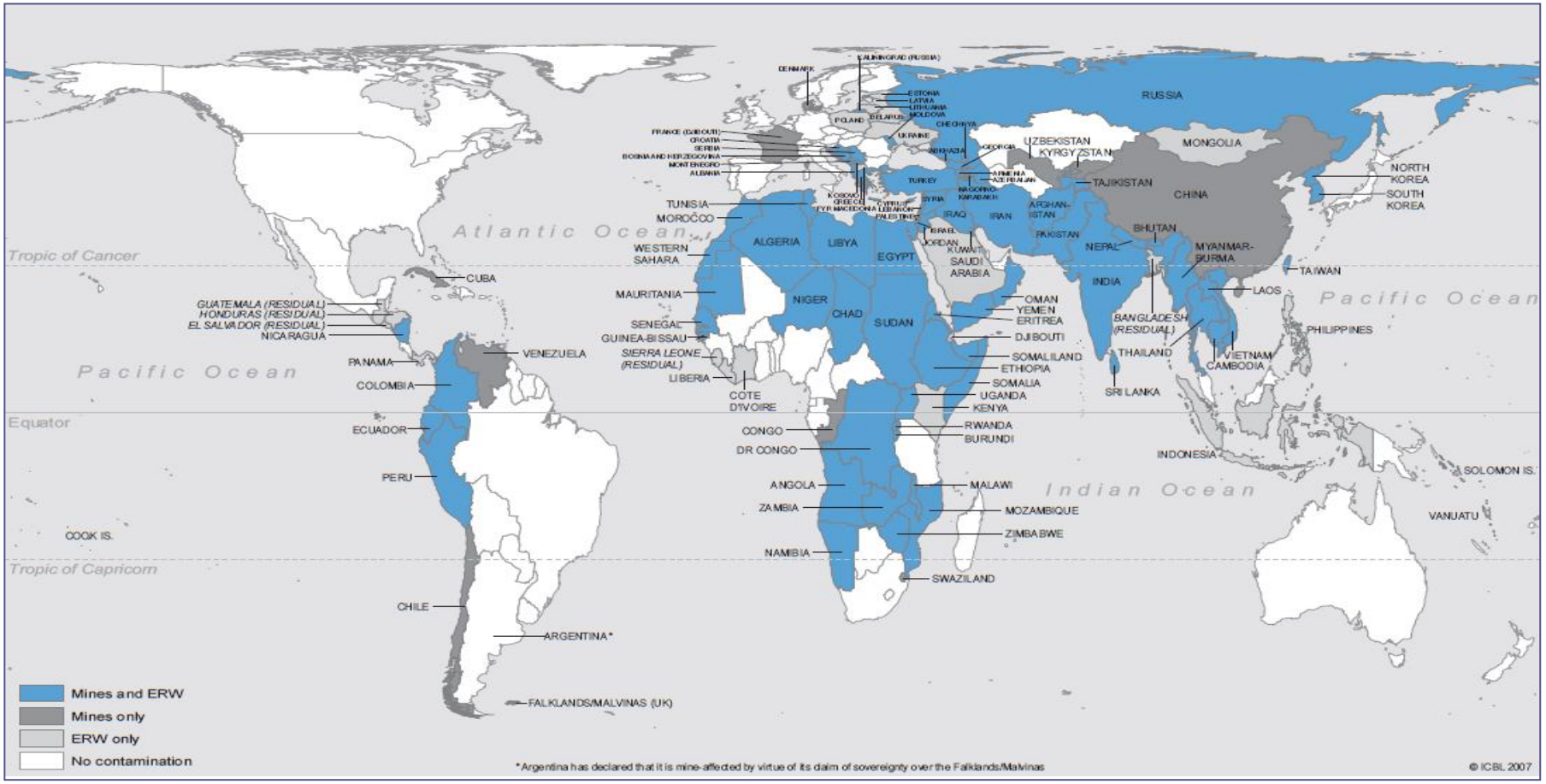
1.1.1 Humanitarian Mine Action, Treaty Legislation and Impact

Humanitarian mine action[1] is a collective term. As laid out in the International Mine Action Standards (IMAS), it denotes activities of mine risk education, victim assistance, stockpile destruction, advocacy and humanitarian demining. This latter point incorporates surveying, mapping, marking and clearance[2] (IMAS, 2003). December 2007, when this research was conceived, was a time of reflection for the mine action sector. The 1997 United Nations (UN) Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction had been, in many respects, a remarkable agreement (States Parties, 1997). As with other UN conventions, the reach of the issue was global (see Figure 1-1 below). Yet, more distinctively, it epitomized not only a success story of civil society advocacy, embodied within the International Campaign to Ban Landmines (ICBL), but also the increasing securitization of the development agenda (Duffield, 1994a, Shaw, 2008, Kjellman, et al., 2003). At its 10 year anniversary, there had been notable successes Globally 80% of nation states were signatories; over 40 million stockpiled mines had been destroyed; and in 2006 international commitments reached a record US $475 million

[1] Referred to as mine action.

[2] IMAS definitions were updated May 2013. Definitions here refer to the 2003 edition, namely the edition in use at the time of data collection.

Figure 1-1 Contamination from Mines and Explosive Remnants of War



(ICBL, 2007a, p. 4)

bringing total funding since the commencement of the Treaty to US $2.79bn (ICBL, 2007a, ICBL, 2007b). Yet despite this, key issues had emerged and others remained unresolved.

1.1.2 Questions Arising

Although the amount of land made safe and items destroyed has been effectively monitored, the wider impact of clearance was not known (Duffield, 1994a, Macrae, et al., 1997). Despite the extent of operations and funds spent, the degree to which the barriers to self-determination in livelihood choices, safety and security, and access to resources and markets had improved were not systematically assessed (Harpviken, 2003, Harpviken & Skåra, 2003). This was because they could not be. The monitoring and reporting structures surrounding the implementation of the Convention had not been designed to ascertain the impact of clearance on wider humanitarian or developmental concerns (Smillie, 1998, Millard, et al., 2002). Rather, in a humanitarian sector characterised by military and political actors and agendas, the focus was upon square metres cleared and number of items destroyed. Where impact had been considered, it was primarily to prioritise clearance.

In this sense impact was associated with ex-ante as opposed to ex-post evaluations of contamination and clearance. Emphasis was placed on the former in terms of time, resources and capacity building efforts. To expand further, within the IMAS four types of survey are required; (1) general surveys; (2) impact surveys, (3) technical surveys; and (4) hand-over documentation to confirm the land has been cleared to international standards (Harpviken et al 2003). Surveys (1), (2) and (3) aid in prioritising clearance needs. Only (4) relates to the post-clearance state. The sector recognised its failure to provide impact information and analysis and there was a desire to address this gap. As the then UK Department for International Development (DFID) (2010, p. 5) stated: ‘Except in a few cases, the need to clear landmines just because they exist in the ground has now gone and the priority is to focus on removing those where there is a clear and measurable impact on development and human security’. This desire was driven not only by a will to follow best practice established within the humanitarian sector more broadly, but to move mine actor away from being labelled as a protection intervention, to one with wider recovery and developmental appeal.

1.1.3 Responding to the Issues: A Research Opportunity

I was intimately aware of the impact debate within mine action as from April 2005 I worked for the Mines Advisory Group (MAG). MAG, a co-laureate of the Nobel Peace Prize for its role within the ICBL was, and remains, a leading mine action NGO globally and is the CASE partner[3] to this research. In post, the need to provide information to governmental aid and security departments and UN agencies on the impact MAG's work had had on wider recovery and development concerns was expressed to me directly. Ten years on from the drafting of the Convention, mine action agencies were being urged to examine the changes donor funding had brought to communities on the ground. In a landscape where the Convention on Cluster Munitions had just been adopted in Dublin in May 2008, providing additional funding commitments, it was accepted that mine action discourse and practice needed to be broadened and moved on (States Parties, 2008). Consequently, 'impact' and the ability to measure and demonstrate 'impact' became a key concern for practitioners, policy makers and commentators alike.

These developments defined the substance of a research problem with both academic and applied resonances: The clearance, removal and destruction of items such as landmines and cluster munitions, eliminated clear threats to human lives and livelihoods. In so doing, however, the process opened up new or reclaimed local development spaces. Of interest therefore was how livelihoods were re-worked therein. In short, what happens to communities following clearance? The research's focus can therefore be distilled down to a need to capture and analyse livelihoods and livelihood change; livelihoods here being cast broadly as the resources, networks and spaces through which households cope and get by. The research aims to acquire a nuanced understanding of the livelihood transformations in a post-conflict landscape, where nevertheless political instability and the threat of violence form an ever present backdrop. As such it is rooted within the everyday geographies of conflict-affected communities. At the onset of the research one of the obstacles to knowledge and understanding on these issues were the existing methods themselves. This then formed the starting point for this thesis: a need to understand what happens to people and places post-contamination and post-clearance and a desire to develop methods that the mine sector might use to assess such transformations.

[3] The ESRC's CASE awards focus upon collaborative research between research institutions and non-academic organisations.

With this starting point established, it is the purpose of the remainder of the chapter to set out the key points of focus and content to the research. This will start with an introduction to the country of study, Lebanon. From here, the chapter will introduce the practice of impact assessment and the characteristics of 'change' it seeks to capture. This then foregrounds discussion on the parameters and framework to the research; details of the research objectives and questions; the field sites; and the conceptual and methodological frameworks used. Finally, the structure of the thesis and the chapters therein are laid out.

1.2 An Introduction to Lebanon: The Country Focus of Study

Lebanon's diminutive 10.4 thousand sq km, places it alongside island states such as Cyprus, Jamaica or the Falkland Isles in terms of scale. Whilst there has been no census since 1932, its population was estimated to stand at 4.25 million in 2011 (UN Statistics Divison, 2013). Divided administratively into six governorates (*mohafaza*) – North; Beirut; Mount Lebanon; Bekaa; Nabatieh; and South Lebanon and 26 electoral districts (*caza*), Lebanon is listed as an 'upper middle income' country (World Bank, 2012). In 2011 life expectancy stood at 80 years (ibid.) Whilst Human Development Index ranking overall was 0. 745; a ranking of 72 out of 187 countries (UNDP, 2013a, UNDP, 2013b). Lebanon may not be poor relative to other states, yet social exclusion and instability belie these figures, as discussed below.

1.2.1 Lebanon and Sources of Instability and Insecurity

Lebanon was, and remains, a country with 'a middle income, yet an extremely vulnerable population who are set in a context where global and local relations are highly politicised' (Shearer & Pickup, 2007, p. 336). Vulnerability finds expression in insecurity. Since independence in 1943, Lebanon has seen considerable conflict stemming from both internal and external protagonists. Lebanon is bound by powerful regional neighbours (see Figure 1-2 below); Israel to the south and the Syrian Arab Republic to the north and east. Externally, Israeli aggression and Syrian dominance and influence within Lebanese domestic affairs remain ever present threats. The latter currently manifests in over 800,000 Syrian refugees seeking shelter in Lebanon (UNHCR, 2013a).

The political and military fracture lines of the wider Middle East, and their global backers, journey through Lebanon. Historically Windsor (1989, p. 77) states that 'Lebanon is a chessboard upon which divided international players vie for position and advantage'. Indeed Syria/Iran and Saudi Arabia/United States strategic partnerships continue to wield power within Lebanese domestic and foreign affairs (Ismael & Ismael, 2011). Internally, sectarian tension and its associated instability are ever present. Lebanon may be small geographically yet demographically it is complex in makeup, with a mosaic of 17 recognised religious sects (CIA, 2011).

Figure 1-2 Lebanon and its Neighbouring States

(UN Department of Field Support Cartographic Section, 2010)

With its confessional[4] political system that constitutionally enshrines differential access to political power, the country is politically fragile. Its population is subject to bouts of episodic or more systemic violence, that emanate from internal and external sources. The presence of landmines, cluster munitions and other explosive remnants of war within Lebanon, act as a legacy of this insecurity. These items are termed in the thesis as 'contamination'. The key focus points of the research are therefore intimately tied to this broader political and military context. Mine action within Lebanon and the scope and content of the contamination within the country are detailed below.

1.2.2 Contamination and Humanitarian Mine Action in Lebanon

Within Lebanon, contamination incorporates bombs, booby traps, rockets, grenades, artillery munitions, mortars, landmines, and cluster munitions as well as cluster submunitions. The Governorates of South Lebanon, Nabatieh and the Bekaa Valley are considered the main areas affected by mines, cluster munitions and other unexploded ordnance, with Mount Lebanon being affected to a lesser degree (ICBL, 2009). It is the contamination relating to the periods 1975-2000 and 2006 in particular that form the backdrop to the research.

Landmines were planted extensively by Israel, as well as by Palestinian resistance fighters and militia groups that evolved during the years of civil hostilities of 1975-2000. During 2002-2003, a Landmine Impact Survey (LIS) was undertaken in Lebanon by the National Demining Office (NDO) and other mine action agencies (NDO et al 2003). Covering just shy of 97% of Lebanon's communities the findings highlighted that five out of six Governorates in Lebanon, comprising 306 communities and 137km^2 of land, were affected by landmines. This amounted to 1 million affected people; high figures when considering Lebanon's current population of 4.25 million. From this figure, 97,685 people were calculated to live in highly impacted communities[5] (ibid p7-8).

Minefields in Lebanon can be split primarily into two groups. In Lebanon's south, including the Governorates of South Lebanon and Nabatieh, where the research is based, they relate

[4] Confessionalism, a form of consociationalism, enables guaranteed group representation within government that is organized by religious denomination. 11 confessions have weighted representation within Lebanon's parliament (IFES , 2009).

[5] The methodology used by the LIS to ascertain how impacted a community is by contamination have been criticised by some parties within the mine action sector due to the relative weight that is accorded to death and injury versus blockages to assets.

primarily to Israel's mining around the UN Blue Line[6]. About 7km^2 of land along the militarised border is believed to be mined, with minefields extending, at times, 3km inland into Lebanese territory (ICBL, 2010). Minefields from the civil conflict also remain in these Governorates but they are not as numerous. Beyond the borders of Nabatieh and South Lebanon, minefields remain mainly as legacies of Lebanon's civil hostilities, as opposed to episodes of foreign occupation by Israel (ibid.).

Lebanon's patterns of contamination were further complicated with the layering of cluster munitions in July- August 2006 on top of contamination from the civil war and Israeli occupation. Prior to 2006, cluster contamination was already present in Lebanon, as stated in the LIS. Human Rights Watch (HRW, 2009) note how this presence came from Israel's use of cluster munitions in southern Lebanon in 1978 against Palestinian forces, and again in 1982, against Syrian forces and non state militia groups (HRW 2009 cited in HRW et al 2009). They were also used by the United States during their presence in Lebanon in December 1983 against Syrian air defence units near Beirut (ibid.). Yet it was 'Operation Just Reward', the 34 Day War fought between the Israel Defence Force (IDF) and Hizbollah that caused the majority of cluster munition and submunition contamination. This period witnessed the most extensive use of cluster munitions since the 1991 Gulf War. It exceeded the numbers used by NATO, the US and Coalition forces in Afghanistan, Kosovo and Iraq (HRW, 2006). 1,207 Hizbollah munitions were found inside Lebanese territory, along with more than 4 million IDF submunitions released from 1073 confirmed cluster strikes within Lebanon (HRW, 2006, ICBL, 2009).

It is against this wider picture of national contamination that the research is set. Working within two communities within southern Lebanon, Arrefir and Sahnen[7], it considers the impact of contamination and its clearance on livelihoods. An introduction to impact assessment and the positioning of this research amongst other studies of impact and mine action is provided below.

[6] The UN delineated Blue Line between Lebanon and Israel was established following Israel's withdrawal from Lebanon in 2000: 'While this was not a formal border demarcation, the aim was to identify a line on the ground conforming to the internationally recognized boundaries of Lebanon, based on the best available cartographic and other documentary evidence' (UNIFIL, 2013).

[7] Pseudonyms are used throughout the thesis for the names of the villages and respondents involved in the research, unless respondents expressed a desire to have no name used at all for their contributions.

1.3 An Introduction to Impact: Capturing 'Change'

1.3.1 Characteristics of Impact and 'Change'

Assessing impact following an intervention is about capturing 'change', particularly, longer term changes and the outcomes that result (Roche 1999). 'Change' however can have many characteristics. It can be both positive and negative; intended and unintended; direct and indirect; it can be change within the intervention's target group(s) and within groups or individuals who sit outside this, but who nevertheless have been affected; and importantly, perceptions and experiences of the change attained by those reached will also differ (Roche, 1999, Mikkelsen, 2005).

Despite former assumptions within development planning, change is not linear. Change may be unstable and sudden, discontinuous or prolonged, sustainable and predictable. The same inputs do not necessarily produce the same outputs or outcomes/ impacts. The change produced is space and time specific and potentially unique, influenced by a myriad of factors. As Roche (1999, p. 25) states: 'development and change are never solely the product of a managed process undertaken by development agencies and NGOs'. Important to note within this is the influence of context, actors and political and social relations: 'The intervening actors are not steering society as a machine but are only some actors among the many in the ongoing struggles to create social practices' (van Donge, 2006, p. 182).

As noted above, historically questions of impact within mine action have primarily focussed upon the impact of contamination to enable its prioritisation for clearance. What is understood about the impact or 'change' produced by contamination and clearance however, is detailed below.

1.3.2 The Understood Impact of Contamination and Clearance

Historically, the impact of contamination has focussed upon the risks to civilians that it presents, the 'blockages' to assets and resources that it can cause, such as agricultural land, water sources, infrastructure, homes and public services, and the associated socio-economic implications and costs. The relationship between risk behaviour and vulnerability with regard

to using or entering contaminated land within this literature is highlighted (see for example NDO et al 2003, HRW, 2006, UNDP, 2011).

The mine action literature then points to three key areas of clearance impact: economic and fiscal; human, both psychological and physiological; and peace-building. Economically, contamination/clearance is argued to block/unblock access to resources and a range of components involved in the production or movement of commodities, be it agricultural land, herding, pasture, water, firewood, infrastructure, access routes and so on (Harpviken & Isaksen, 2004). Clearance is additionally argued to reduce or remove the risk of accident. This generates 'saved costs' at macro levels in terms, for example, of medical care, travel time, and housing refugees or the displaced (Harris, 2002, p. 50). Whilst at the micro-scale, the wider ramifications of accidents on households, such as reduced household productivity through injury, reduced food security and so on, are prevented (Andersson, et al., 1995). Further, while the arrival of demining teams has been linked to local price inflation, their presence has simultaneously been found to create 'fringe benefits' (Harpviken & Skåra, 2003, p. 33). For example, down-stream development with the supply or improvement of services or infrastructure may follow clearance. Similarly, the ability of clearance to generate employment or draw in waged employees to, at times, remote rural areas may lead to a localised micro-economic boost (ibid.).

Clearance also brings clear safety benefits – 'saving life and limb', as it is termed by clearance agencies. This is argued to benefit often more vulnerable groups who engage with contamination due to other livelihood insecurities and threats. Psychological benefit is argued to stem from the generation of safety, freedom from fear and reduced stress (Durham, 2010, Harpviken & Skåra, 2003). Similarly, analysing interventions aimed at removing small arms and light weapons (SALW), improvements in perceived levels of security were found to follow[8] (Centre for International Cooperation and Security, 2005). The removal of risk and creation of a sense of safety that ensues may led to further change: the resumption or focus on livelihood activities, and / or the empowerment of communities to handle security issues for example (ibid., Durham, 2010). Finally, the very process of removing items, and the association of those items with conflict, has been linked to the process of peace-building, be it through generating material change such as enabling return

[8] The authors point out here that such perceptions of improved security are 'by people's own measures' and the 'concrete objective evidence of the lessening of armed violence has not yet materialised' (p.46)

and resettlement, or through promoting reconciliation by engaging former adversaries in the process of clearing contaminated ground (Millard & Harpviken, 2000, Harpviken & Isaksen, 2004).

1.3.3 Positioning the Research amongst Mine Action and Impact Studies

As the above discussion indicates, research on the impact of contamination and clearance is not wholly new. Technical investigations into the history of landmines within warfare; examinations of the social processes that led to the UN Convention on Anti-Personnel Landmines; and analysis of the levels of compliance to the Convention have been the focus of other studies (see for example Lawson, 2002, Youngblood, 2002, Perez, 2010). Of more direct relevance to this study, Smits (2007) working with the NGO Clear Path International in Vietnam, investigated the consequences of explosive remnants of war accidents for survivors, and as such considered the impact of contamination for a defined target group, which this research seeks to broaden. Roberts (2009) argued that accidents in Cambodia from accidental and deliberate tampering varied with socio-economic variables, agricultural performance and changes in the price of scrap metal. As such the risks posed by contamination were argued to be differential, dynamic and embedded within wider social and economic systems. This study similarly seeks to understand the everyday management, mitigation or engagement with contamination and the wider structures and moulding forces that underpin such behaviour.

This research follows most directly, however, in the footsteps of two areas of work. The Assistance to Mine Affected Communities Project, undertaken by the Peace Research Institute of Oslo (PRIO) (1999 – 2009), provides the most specialised body of literature to build upon. Parallels with this work can be drawn in its focus upon community studies to unpick the impact of contamination, and the involvement of the community in the demining process, as will be expanded upon in the empirical chapters. In addition, within the mine action sector itself, three other research initiatives by Jo Durham at Curtin University, Australia (Durham, 2010), MAG and the Danish Demining Group preceded this study[9]. They all directly considered contamination, clearance and impact.

[9] Personal communications and notes. Please see Annex A. Danish Demining Group, alongside MAG, is an NGO specialising in mine action.

Whilst the acknowledged gaps in understanding impact within clearance have already been laid out, within this there are recognised differences in the ability to ascertain impact (Millard and Harpviken, 2000). This is summarised in Table 1-1 below.

Table 1-1 Impact across the Range of Clearance Interventions

	Stage 1: Emergency Relief	**Stage 2: Reconstruction**	**Stage 3: Development**
General Objective	Saving lives and reducing suffering	Rehabilitation	Long-term poverty alleviation
Mine Action objective	Halt destruction and immediate threat	Eliminate reduction	End disruption to livelihoods
Main impact by level	National level (Macro-level impact)	Regional level (often coordinated with other aid initiatives)	Community level (micro level impact)
Accident potential	High	Medium	Low
Difficulty of impact identification	Low	Moderate	High

(Millard & Harpviken, 2000, p. 11)

In sum, it is within 'development' interventions at the micro-scale of the community, where livelihoods are being disrupted, that impact is identified as being the most difficult to identify. Among this wider set of research activities, this thesis specifically targets this gap. Yet, points of differentiation with these other areas of work can be made. For example, as discussed in Chapter 3, the area of study was expanded from Lao PDR, Cambodia, Sri Lanka, South Sudan, Somalia and Iraq. Methodologically, methods other than surveying were included within the research protocol. Perspectives on contamination and clearance that sat above and below the level of the household were sought, and there was the aim to select communities with differing temporal positions to clearance to investigate any longitudinal change to livelihood that was associated with clearance. As such the design of the research evolved to avoid duplication and build on ongoing findings and recommendations

1.3.4 Terminology

Finally, before turning to the research framework, it is perhaps timely to clarify some points of terminology used. The standards set forth by IMAS (2003) include terms and definitions for use within the mine action sector[10]. These have largely been adopted by the research. However, the terminology used in the thesis will diverge from IMAS in two ways.

Firstly, within IMAS the term explosive remnants of war (ERW) includes cluster munitions but not landmines. Therefore in the thesis the term 'contamination' is used to refer collectively to landmines and ERW found within Lebanon as a legacy of conflict and violence. Secondly, the thesis does not adopt the definition of 'impact' stipulated within IMAS. This is listed as: 'the level of social and economic suffering experienced by the community resulting from the harm or risk of harm caused by mine and ERW hazards and hazardous areas' (ibid., p. 18). This understanding of 'impact', while cognisant of the effects of contamination, does not incorporate any effects brought about by the clearance of contamination.

Consequently, the definition of impact as: 'lasting or significant changes – positive or negative, intended or not – in people's lives brought about by a given action or series of actions' is used within the thesis (Roche, 1999, p. 21). It captures change brought about by both contamination and by clearance. It recognises that in situations of instability change may be significant but not necessarily sustainable. Finally in talking of 'action or series of actions' it captures more accurately the multiplicity of actors and interventions that may be involved in the processes of contaminating land and its clearance. Initially this was of appeal because it included the formal structures of mine action, such as the Lebanese Mine Action Centre (LMAC) that controls mine action, determining for example where operators such as MAG deploy. During data collection however it gained further relevance in capturing the range of stakeholders and their actions relating to contamination and clearance, as will be expanded upon in Chapter 3 and the empirical chapters.

With these points of clarification in mind, the following section to the chapter outlines the research framework. Namely the objectives and questions the research seeks to answer, the field sites it focuses upon and the conceptual and methodological framework it uses.

[10] Mine action terms regularly used within the thesis are listed within the glossary, in Annex B.

1.4 The Research Framework

Working with the concepts of impact and change outlined above, the research focuses upon capturing livelihood change associated with contamination and clearance. In doing so it seeks to contribute to improved knowledge and understanding of the nature of livelihood transitions in post-conflict contexts. The specific objectives and headline questions the research has sought to answer are detailed below. As will be discussed in Chapter 3, they have evolved and have been refined as the research has progressed.

1.4.1 Research Objectives and Questions

Research Objective 1 and Headline Questions

To examine and assess how the amelioration of risk, achieved through the removal and clearance of mines and cluster munitions reworks local development spaces and livelihoods.

1) How does contamination impact upon livelihoods in the field sites?
2) What impact has clearance had in the field sites on livelihoods and local development spaces?
3) How can any variations in the impact of contamination and clearance on livelihoods, within and across the field sites, be explained?

Research Objective 2 and Headline Questions

In insecure contexts is it possible to answer questions around impact and what learning can be gained from the research to inform operational planning and policy debate and direction?

1) How can any practical and ethical challenges of researching the impact of contamination and clearance in insecure contexts, with vulnerable populations, be addressed?
2) What biases and limitations result in the data, if any?
3) How can the research's findings be translated to most usefully to inform operational planning and policy debate and direction?

1.4.2 The Field Sites – Arrefir and Sahnen

Data collection was undertaken in two southern Lebanese villages, Arrefir and Sahnen, located within the Governorates of Nabatieh and South Lebanon. Both villages were within 20km of the UN Blue Line and have experienced sustained and episodic violence and a range of contamination and clearance. Arrefir was most significantly affected by Lebanon's civil conflict, being occupied by the IDF / South Lebanese Army (SLA) until the Israeli withdrawal in 2000. Landmines and cluster submunitions from 1978 and 1982 form the main contamination threat within the village. Sahnen, conversely, was most heavily affected by cluster submunitions from the 34 Day War in July-August 2006 fought between the IDF and Hizbollah. At the time of data collection, both communities continued to be vulnerable to political insecurity and violence. The insecure nature of the field sites was significant in directing the conceptual and methodological frameworks used in the research, as explained below.

1.4.3 Conceptual Framework

As will be discussed in Chapter 2, the livelihoods framework is the principal conceptual and organisational tool for this research. The particular livelihoods framework used, following the work of the Overseas Development Institute, is one adapted to situations of insecurity (Collinson, et al., 2002, Collinson, 2003). The appropriateness of taking a livelihoods approach is not only because of the centrality of livelihoods to the research objectives and questions, but its ability to bridge both academic and applied enquiry, as required. Yet, this is not to say the approach is applied uncritically. Its specific weaknesses in accounting for power and politics, the focus on the material as opposed to the non material of the everyday, and its treatment of risk are particularly pertinent given the context under investigation. Consequently, the livelihoods framework is not applied alone. It provides a conceptual and organisational starting point.

Within the thesis, the adapted livelihoods framework is 'nested' among other literatures. Discourse in the political economy of conflict, post-colonialism, hazard and risk and well-being are all drawn upon, as are the concepts of structure/agency and vulnerability/resilience. Returning to livelihoods as resistance is also an important theme running through the thesis. As these literatures are often associated with different 'scales' of

analysis from the macro to the micro, the lenses of vulnerability and resilience draw the discussion together into a coherent whole. In sum, whilst the approach seeks to capture and make sense of livelihood change associated with contamination and clearance, it adopts an inter-disciplinary approach to thinking and analysis.

1.4.4 Methodological Framework

Stemming from the 1950s, impact assessments have long been part of a toolbox of methods NGOs and development agencies have used to gauge the achievements of an individual project or wider programme. The evolution of impact assessments can be linked to movements and debates within development theory more broadly. Traversing classical and modernisation thinking where scientific and quantitative methods prevailed, initially they were underpinned by logical positivism (Roche, 1999, Desai & Potter, 2006). In the 1960s and 1970s structuralism, humanism and social constructionism emerged and the focus of study was 'not at precise measurement of pre-determined hypotheses but a holistic understanding of complex realities' (Mayoux, 2006, p. 118, Desai & Potter, 2006). Whilst in the 1980s, participatory approaches looked to shift communities and individuals from passive subjects to active participants within assessment processes. At its most ardent this approach, which the livelihoods approach looks favourably upon, translated into practices whereby 'outsiders relinquish control and act as catalysts of locally owned processes of empowerment and development' (Roche, 1999, p. 20).

Yet in terms of praxis, one type of methodology or approach was not used exclusively. Consequently, logical positivism and hypothesis testing can still be seen. Surveys and questionnaires sit alongside focus group discussions and in-depth interviews. Further, whilst within NGOs and development agencies participatory methods have been de-rigueur, the degree of participation and ownership are on a sliding scale, their adaptation reflecting the needs, resources and capabilities of the agency and participants involved.

In line with this thinking, at the onset of data collection the research methodology comprised a mixed methods approach to generating livelihood data from community to individual levels. This included community profiling, surveying, interviewing and oral histories. As the research evolved it had to adapt to circumstances and context, and household semi-structured interviewing became the key method. This was supported by interviews/ meetings with mine action stakeholders, informal encounters, and the collection of secondary data and 'grey

'materials. Within the field sites, 63 interviews were fully completed and a further three were partially completed being interrupted or stopped part way through. The process of data collection was challenging. Alongside designing a research framework attuned to the local context, open disclosure of the research process and journey consequently became of equal import. The methodological findings needed to be set alongside the oft-overlooked process of 'doing development research'. As will be discussed in Chapter 3, failure to reflect upon the process of research in this instance appeared to be not only disingenuous but a missed opportunity for empirical learning.

In the final section to this chapter below, the structure to the thesis is detailed.

1.5 The Structure to the Thesis

The thesis is divided into three sections. Firstly, following on from this introduction, Chapters 2, 3 and 4, concentrate on situating the research conceptually, methodologically and contextually. Thereafter, Chapters, 5, 6, 7 and 8 discuss the empirical findings to the research. Chapter 9 draws together the discussion and findings in the conclusion. A summary of the individual content and objectives of each of the chapters is provided below. The themes of vulnerability and resilience run throughout, both implicitly and explicitly.

Chapter 2

Key Concepts and Framework: The Livelihoods Approach in Violent Contexts

The chapter introduces the core conceptual thinking and frameworks that underpin the research. The origins and objectives of the original livelihoods framework are outlined, alongside its critiques. Thereafter the chapter draws on literatures from post-colonialism, political economy of conflict, hazard and risk, well being and the concepts of structure/agency and resilience/vulnerability, to build a nested livelihoods approach. This framework, in sum, seeks to capture and make sense of livelihood change associated with contamination and clearance.

Chapter 3

Planning and Practice: Researching the Impact of Contamination and Clearance on Livelihood

This chapter sets forth the narrative evolution of the research protocol. It charts the research's development to arrive at a methodology tailored to circumstance and context.

Along with outlining the methodology used, this includes pre-departure changes to the research design, field realities and how these were negotiated, data analysis and reflections of the research process. In line with the methodological research questions, answered in this chapter, it is purposively reflexive upon the process of researching.

Chapter 4

Lebanon: Context and Backdrop to the Research

Chapter 4 seeks to contextualise the research. Narrowing its frame of reference as the chapter progresses, it situates livelihoods in the field sites within wider circumstance. Discussion therefore starts with the socio-economic landscape of Lebanon and its history of conflict. The influence conflict continues to have on livelihoods is then traced using a framework of the six livelihood capitals. One of these outcomes, mine action and the contamination it seeks to clear, is then drilled down on. Before the specific contamination and characteristics of the field sites are discussed.

Chapter 5

Suffering from a Legacy of Conflict: The Costs of Contamination

Building on the contexts of contamination in the field sites, the first of the empirical chapters sets out the concept of 'shock' in livelihood. It then explores the costs of the 'shock' of contamination on physical, natural and human capital in the field sites. How these impacts differentiate and relate to vulnerability to risk and political and social relations are unpacked.

Chapter 6

Coping With and Adapting to Contamination

Chapter 6 focuses upon the processes of coping and adaptation to contamination that emerged within livelihoods in the field sites. Ex-ante and ex-post coping and adaptation mechanisms to shock within the livelihoods literature are set forth. With regard to Arrefir and Sahnen it will be shown that households coped with, and adapted to, contamination in their livelihoods through threat avoidance, containment and confrontation. Thus responses involved both reactive adjustment and proactive engagement.

Chapter 7

The Matter of Clearance and Its Benefits

Examining the impact of clearance in the field sites on livelihoods and local development spaces, the livelihood concepts of trajectories and pathways are explained to foreshadow

discussion. How human, natural and financial livelihood capitals were stabilised and supported through clearance will be explored, alongside the significant effects of clearance on well-being. The matter of clearance itself is also examined. The network of clearance practice that emerged in the field sites highlights how vulnerability and resilience work their way through to the post-conflict context.

Chapter 8

Contamination, Clearance and Impact: Delineating Factors

The final empirical chapter identifies potential delineating factors to impact, incorporating both direct and indirect considerations and influences past and present. It firstly situates discussion within the context of the transforming structures and processes (TSPs) within livelihoods. To understand why the impact of contamination and clearance varied within and across the field sites, three sets of considerations are put forward: The structural and relational dimensions of livelihood and the subjectivities of the individual.

Chapter 9

Conclusion

The final chapter of the thesis synthesises and draws out key points of consideration. Initially returning to the origins of this research project and the gap in knowledge it sought to address, findings from the research are then related to the research questions. Working across the research questions, how the findings relate to issues of policy and practice is then highlighted. Discussion then turns to the contribution and limitations of the research, along with the identification of future avenues of enquiry. Finally, some closing remarks are made.

It is to Chapter 2 and the key concepts, framework and literatures used in the thesis that attention now turns.

CHAPTER 2
KEY CONCEPTS AND FRAMEWORK: THE LIVELIHOODS APPROACH IN VIOLENT CONTEXTS

2.1 Introduction

As can be seen from the research questions and objectives outlined in the previous chapter, this research is in essence a critical study of development. Its focus on understanding the impact of contamination and clearance can be distilled down to a need to capture and make sense of livelihood change. It aims to acquire an understanding of livelihood transformations in a post-conflict landscape, where nevertheless political instability and the threat of violence form an ever present backdrop.

It is the aim of this chapter to introduce the core conceptual thinking and frameworks that underpin the research. This chapter also seeks to provide a platform from which to engage with the literature throughout the remainder of the thesis. To this end, it initially grounds the context of the field sites in the literature by outlining the changing nature of conflict and violence and their understood effects on livelihoods and development aid. It then traces the starting point for conventional livelihood analysis within the development sector, namely the sustainable livelihoods approach and its accompanying sustainable livelihoods framework (SLF). The components, benefits, critiques and limitations of the sustainable livelihoods approach and framework are detailed. It is argued that for this research there is a need to reorient this analytical tool to the scales and context under investigation. This involves both elaborating on existing elements of the approach and drawing into discussion perspectives from other literatures that are thought beneficial.

The remainder of the chapter turns to this task. Working across different scales key concepts, frameworks and discourse from a range of literatures on structure and agency, vulnerability, hazard and risk, well-being, post-colonialism and the political economy of conflict, are identified. The understanding they bring to the research is set out and is mapped to subsequent chapters. As such whilst the livelihoods approach forms a starting point for organising methods and consideration of the empirical data, it is not drawn on exclusively. By way of conclusion, the chapter sets out how this range of literature can be drawn together coherently in the form of a nested livelihoods approach.

2.2 Conflict, Violence and Links to Livelihood and Development Aid

The conceptualisation of complex emergency emerged in the late 1980s (Duffied, 1994a). It sought to capture the presence of politically driven, long-lived and cyclical violence that was associated with shifts in power relations and regionalisation at the close of the bi-polar Cold War (Goodhand and Hulme, 1999). Hence, whilst such forms of violence were evident from the middle of the 20th Century, towards its end they had proliferated (ibid.). This in turn drove the need for a new international response to conflict (Duffied, 1994a, Duffield, 1994b, Schafer, 2002, Collier, 2008), as discussed below.

2.2.1 Understanding the Changing Nature of Violence

Within the literature the characteristics of complex emergencies have been debated, such as whether its roots lie in greed or grievance and the nature of its relationship to poverty (see Duffield, 2006, Collier, 2008). What is clear however was that such conflict and violence were not 'ideologically driven (by) nationalist or socialist wars of liberation' with the metropole (Duffied, 1994a, p. 2). Instead, viewed as processes rather than events they differ in nature, extent and impact to their inter-state predecessors. They combine characteristics of conflict within and across state boundaries; conflict with political causality; conflict with predatory social formations due to their ethno-nationalist characteristics; conflict with social cleavages as they are embedded in, and are expressions of, existing social, political, economic and cultural structures; and finally conflicts of protracted duration (adapted from Goodhand and Hulme, 1999, pp. 16-17). Violence and conflict can be geographically specific, occurring in 'pockets of insecurity' in otherwise stable states (Schafer, 2002, p. 2). It can be accompanied

by parallel economies or political structures (see Duffield, et al., 1994, p. 225). It was also seen to be both destructive and transformative comprising: 'susceptibility to violence, forced displacement, the denial of basic human rights, the deliberate, destruction of livelihoods, and the existence of serious poverty (Schafer, 2002, p. vi). Indeed at times 'the survival strategies of the politically dominant centre upon the displacement and impoverishment of the losers' (Duffield, et al., 1994, p. 225). 'Othering' is therefore inherent to such forms of violence. It is also evident in the response that it has given rise to, as seen below.

2.2.2 The Impact of Conflict and Violence on Livelihood and Development Aid

Complex emergencies pose challenges for development, both as a concept concerned with progressive advancement and the development sector (Duffied, 1994a). The changing nature and proliferation of conflict and violence has been accompanied by a change and a 'radicalization' in the ways in which it is viewed (Duffield, 2006, p. 99). Development was 'reinvigorated, 'reinvented' (ibid. p.118). Particularly, post 9/11 and 7/7 concerns of (in)security, terrorism and homeland rose up the domestic and international political agendas. Development was securitised as political, military and national security concerns were incorporated within wider human security approaches (Shaw, 2008). One of the consequences of this was that funding was realigned (Duffield, 2006). Some bi-lateral and multi-lateral donors 'work in conflict' and developed conflict sensitive approaches to poverty and livelihoods in situations of instability. Others such as the Norwegian, Canadian, Swedish, Dutch and British governments dispensed aid to 'work on conflict', namely they explicitly looked to facilitate conflict prevention and resolution (Goodhand, 2001, p. 31). Mine action is in part shaped by this discourse. Within a wider framework of protection, it bridges both sides of conflict and violence. Mine action works on clearance as a legacy of conflict; the focus of this research. However it also works on conflict prevention and security sector reform through the destruction of SALW.

As noted by Desai and Potter (2008, p. 443) the costs of conflict and violence 'are to be measured in deaths, broken lives, destroyed livelihoods, lost homes and increased vulnerability'. As expanded upon in Chapter 4, Goodhand (2001, p. 14) notes that the impact of conflict is felt in terms of livelihood capitals; the assets and/or capacities individuals possess and draw on within their everyday lives. All livelihood capitals are impacted, namely:

1) political capital (with the decline of democratic processes and rise of military actors); 2) human capital (deaths, disablement, displacement); 3) financial capital (investment levels, outflow of capital); 4) social capital (disruption to social relations, decline in trust and reciprocity); 5) natural capital (increased use of marginal land, breakdown of customary rights and rules of usage); and 6) physical capital (destruction of infrastructure, landmine contamination). Moreover, there is temporality to impact. Immediate effects such as death and displacement sit alongside longer term environmental, social, political and economic costs and blockages to rehabilitation and development. Effects also operate across scales. At the macro-scale Collier (2008) notes that economically half the costs of conflict are borne after the war has ended, through disease, economic collapse, regional instability, criminal activity and so on. Bird (2007, p. viii) details the potential sequencing of impacts at a much smaller scale: 'The disruption to income generating activities and the loss of productive and household assets can have short-run impacts on consumption and food security and longer run impacts on livelihood options, well-being and inheritance'.

The impact of violence and conflict is therefore seen to continue to infiltrate and shape the post conflict landscape, local development spaces and the opportunities, constraints and actors contained therein long after the fighting has ended (Goodhand and Hulme, 1999). This includes contamination (and by extension clearance), key objects of this study. This then raises the issue of how to capture and make sense of any transformations in livelihoods that occur in these landscapes of (in)security due to contamination and clearance. For this task the chapter now turns to consider the livelihoods approach in more detail.

2.3 The Livelihoods Approach

2.3.1 Origins, Purpose and Underpinnings

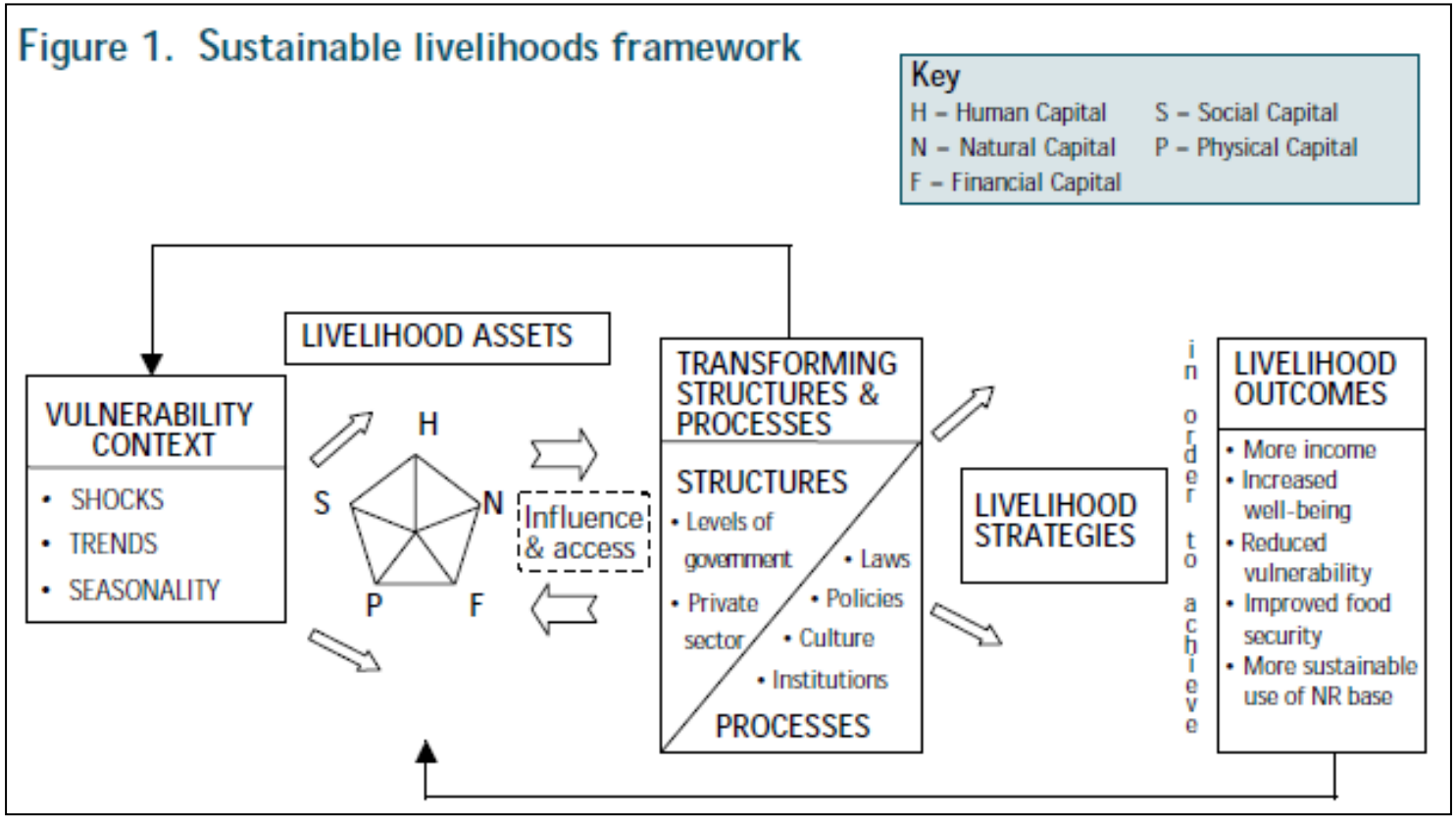
Scoones (2009a) maps out the influences behind the concept of livelihoods going back 50 years or so across approaches such as farming systems, political ecology, village studies, household economics and gender analysis. Livelihoods build on concepts such as entitlements, and relations of exchange and command put forward by Sen (1981). Yet it was in the 1980s/1990s environment and development movements that the livelihoods approach gathered momentum, as ideas around poverty alleviation, development and environmental strain found purchase. This can be seen, variously, in the 1987 Bruntland Report, the 1987

Greening of Aid Conference and the UNDP's 1990 Human Development Report (Scoones, 2009a, de Haan, 2005). Building on Chambers' (1983) influential work *Rural Development: Putting the Last First*, Chambers and Conway encapsulated the concept of sustainable livelihoods in 1991 (Scoones, 2009a). The starting point for their analysis was the realities of the rural poor. They sought to secure people-centered and sustainable development strategies, particularly in environmentally sensitive locations (Chambers and Conway, 1991, Scoones, 2009a).

Although the paper was influential, livelihoods remained at that time at the margins of the UK development mainstream. In 1997 however, it was picked up by the incoming Labour Government, where within the Sustainable Livelihoods Advisory Committee, comprising DFID, academia and the NGO sector, the Sustainable Rural Livelihoods Framework (SLF) took form the following year (see Figure 2-1 below). The SLF operationalised the sustainable livelihoods approach. It quickly became the modus operandi for development actors to design, finance and monitor programme or project interventions over a range of issues and in a range of contexts (de Haan and Zoomers, 2005). It handily broke down livelihoods into determinants of an asset pentagon of capitals, transforming structures and processes (more latterly termed policies, institutions and processes) and a context that acknowledged shocks, trends and seasonality. In this way the approach attempted to identify 'the many factors that affect livelihoods, their relative importance and the way in which they interact' (Twigg, 2001, p. 9). The SLF provided a methodological tool for the field. Indeed that was its key purpose amongst aid agencies and institutions. It provided a means to make sense of the everyday lives of target groups and identify meaningful entry points for their interventions.

In light of this, there is a need to recognise what the SLF is (Scoones, 2009a). The SLF co-constitutes a discourse that is accompanied by its own set of normative understandings and assumptions (ibid). As Willis (2004) notes, neo-liberalism continues to be the broad theoretical context that shapes development policy today. In response to a variety of critiques – feminist, environmental and post-developmental – the redefinition of development goals and practices has been sought (see Kothari, 2002, Willis,

Figure 2-1 The Sustainable Livelihoods Framework



(DFID, 1999)

2004, Humphrey, 2007). Social development, gender and development, rights based and participatory approaches amongst others have moved principles of localisation, disaggregation, bottom up and empowerment up the policy and practice agendas. The livelihoods approach links to such objectives and principles (see Edwards, 1989, Green, 2002, Parnwell, 2008). As Kothari and Minogue (2002, p. 7) note, 'alternative theories of development have to greater or lesser degrees been adopted within the mainstream'. Yet significantly their incorporation into the prevailing milieu has been as 'cherry picked' favourites. Rather than inducing a step change, they have left an imprint. There is continued belief in a progressive, singularly directional transformation underpinned by 'faith in the market' (Willis, 2004, p. 208). As will be explained below, the one-directional element to livelihood outcomes detailed within the original SLF perhaps remains a signpost to these underlying assumptions.

For those working within aid agencies and institutions, however, the attractions of the SLF were clear. It is a technical, managerial tool. Its ethos stressing the centrality of local perspectives, attempting to capture the complexity of what people do and how they get by, and focusing upon vulnerability to poverty, was appealing to actors concerned with social justice. The SLF acknowledges agency. It draws attention to 'the active involvement of people in responding to and enforcing change' (de Haan and Zoomers, 2005, p. 38). Individuals were not viewed as victims but rather agents and the SLF conceptualised their internal responses to opportunities and constraints at a micro level.

2.3.2 Conceptualising Livelihoods: Framework, Components and Terminology

The SLF was, and remains, a micro-level analysis. It is concerned with individuals, households and communities. An introduction to the SLF is provided here, which will be expanded upon within the empirical chapters. Livelihoods analysis is based around three key concepts:

1) Capability - reactive and proactive, including the ability to undertake basic functions, capacities to cope with stress and shocks and ability to take advantage of opportunities
2) Equity - in terms of the distribution of assets, capabilities and opportunities
3) Sustainability - both environmentally and socially reflected in 'the ability to maintain and improve livelihoods while maintaining or enhancing the local and global assets and capabilities on which livelihoods depend'

(Chambers & Conway, 1991, p. 5).

These elements combine in a definition of a livelihood phrased as:

> 'the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global level and in the short and long term.'
>
> (ibid. p. 6).

In terms of conceptualisation, the SLF 'starts with the vulnerability context in which people live their lives and the *livelihood assets* (in effect capacities) that they possess. It then looks at how *transforming structures and processes* generate *livelihood strategies* that lead to *livelihood outcomes*' (Twigg, 2001, p. 9). Inevitably, perhaps, the SLF has not stood still. 'Transforming, structures and processes', or TSPs, evolved to 'policy, institutions and processes' and the term 'strategies' was contested. The degree to which livelihoods were the product of pre-defined goals systematically achieved, or fluid, iterative, responsive processes comprising individual and group dynamics, was questioned. In response, the terms 'pathway' and 'trajectories' were discussed in the livelihoods literature that were grounded in Bourdieu's concept of habitus, that will be discussed later (de Haan, 2005). 'Pathway' denoted 'the observed regularities or patterns in livelihood among particular social groups' whilst 'trajectories' accounted for individual actor's life paths' (ibid, p. 16). This terminology is used in the thesis.

As laid out in the previous chapter, livelihoods are then cast broadly as the resources, networks and spaces through which households cope and get by. They are also understood as being inherently relational. Rather than being conducted or shaped in isolation, there is constant dialogue, connection and disconnection, push and pull internally amongst the individuals who comprise it, and externally amongst other livelihoods around it. The scales across which livelihoods operate also lead to other relational considerations. As Scoones (2009b, p. 2) notes when analysing livelihoods they must be 'located within a relational understanding of power and politics which identifies how political spaces are opened up and closed down...how class, gender and capitalist relations operate, asking who gains and loses and why'. The literatures discussed in section 2.4 below are used in conjunction with the livelihoods approach to

examine such considerations. They collectively work to situate, relate and link livelihoods with wider, inter-scalar, processes that support and destabilise patterns of everyday living in the fieldsites.

2.3.3 Critiques and Limitations of the Livelihoods Approach

The critiques of the approach and framework however are also significant. Thus, despite enthusiastic reorientation and specialisation amongst development institutions within the 1990s to the SLF, by 2009 the framework was in a 'development aid backwater' (Scoones, 2009a, p. 181). The framework appeared to fail to engage sufficiently with wider, and in some cases, fundamental shifts in global markets and political concerns. Bringing the local into focus, and the benefits gained from this, had sidelined important constraints. As Zoomers (2008, p. 148) notes: 'The success of the rural poor may be related less to strategic actions than to structural, often locational, limitations' (see also de Haan and Zoomers, 2003). The weighting and connections of scale in the framework needed realignment. Macro forces and their effects, such as globalisation and neo-liberalism deserved more attention. Others called attention to associated wider and longer term change in areas such as de-agrarianisation, migration, and livelihood diversification (see McDowell and de Haan, 1997, Ellis, 1998, Rigg, 2007). Such analysis, it was argued, deserved more attention than being 'dumped in a box labelled "contexts"' (Scoones, 2009a, p. 181).

This failure to engage with fundamental economic shifts also extended to the environmental and ecological. Despite the 'sustainable' in its title, the SLF's lack of attention to climate change meant for some it was 'fiddling while Rome burned' (ibid. p.182). Others noted how the term 'sustainable' sits in tension with livelihood outcomes listed within the framework (Murray, 2001). Furthermore, contrary to its 'bottom up' principles and perspectives the very use of the term 'sustainable', nods to its Anglophone heritage. There was difficulty in translating and exporting sustainable livelihoods' language and concepts to other languages and intellectual traditions (Scoones, 2009a). This then highlighted an inconsistency between a drive for a view from the local, but a view that is framed within Western normative understandings and their associated development praxis and process.

A focus on capitals and activities led to downplaying, and importantly not unpacking transforming structures, mediating processes, and institutions and organisations, in particular with regard to power (de Haan & Zoomers, 2005). Power and politics, or rather a lack of

attention to power and politics, is regarded as a key weakness of the SLF. This critique has taken many forms: the 'room for manoeuvre' or 'wielding and yielding' of engendered power relations (ibid p. 37); inequality, conflicts of interest, competition and the potential for exploitation both within and between communities, and between communities and associated, influential elites and institutions (Murray, 2001, Collinson, et al., 2002); lack of connection with state politics and governance (Scoones, 2009a, p. 182); and the flawed assumption that the processes of development, from the multi-lateral to the local, are 'depoliticised' (Le Billon, et al., 2000). To address these critiques, the creation of an asset hexagon with the addition of political capital, initiated by the UNDP, provided visibility but did not grapple with the embedded and structural nature such power takes (Scoones, 2009a). An opportunity was lost. Power and politics were not integrated, but became rather a bolt on. This is a particular weakness of the SLF in the context of the research here, given the contested and insecure nature of the field sites. Further, it underlines the SLF's most significant limitation: its starting point.

2.4 Livelihoods as a Starting Point: Strengthening the Approach Through Other Literatures

Chambers and Conway (1991, p. 2) state: 'the major empirical and normative equation from which we start is to seek ways for most rural areas in developing countries to support many more people'. The framework was not aimed at analysis of peri-urban, politically unstable and periodically violent contexts such as South Lebanon, which present a different spectrum of livelihood considerations and concerns. Given the identified shortcomings of the approach, both intrinsically and in its application to the field sites, there is a need to strengthen the approach and its application across scale. There is the need to 'rethink, re-tool and re-engage' the approach, as argued for by Scoones (2009b, p. 2) in a way that is tailored to the context under investigation. This is the focus of the following discussion. It aims to bring the livelihoods approach into conversation with other literatures in order to build on its existing elements and introduce alternative perspectives in thinking. The following discourses, concepts and frameworks are introduced below to this end: structure and agency; vulnerability; and hazard and risk, which will be discussed first, followed by the pertinent elements of the well-being; post-colonial; and political economy of war literatures. These literatures are deliberately grounded at different scales, or support inter-scale analysis, as is relevant to this research.

2.4.1 Structure and Agency

A discussion on structure and agency in this chapter is arguably overdue. The conceptual and theoretical frameworks discussed, from livelihoods above to post-colonialism, political economy and hazard and risk below, all take a standpoint on the levels of self-determinism to everyday living. This idea is central to the structure/agency debate. The livelihoods approach centres upon 'agency, actors and action' (Rigg, 2007, p. 29). Control, decision making, and the shaping of lives are primarily internal, individualistic and driven from within (ibid). This stands in constrast to the structural determinism of some approaches discussed below where the emphasis is upon 'the extent to which people are constrained in their actions'. Here categories such as 'class, geography, gender, social hierarchy and ethnicity' all serve to limit the ability to exercise choice in the shaping of lives (ibid p. 24).

From the fact that both structural and agency perspectives are included in this discussion perhaps foreshadows the position the thesis adopts. An interpretation of structure and agency found within Giddens' (1984) structuration theory or Bourdieu's (1980) habitus is used. The thesis is therefore open to the following: Firstly the inclusion of both structural and agency-driven perspectives, recognising that each brings its own set of advantages (and disadvantages) and presuppositions. Secondly, recognition of the potential relationship between the two concepts and that they may be 'mutually co-constituted' (Rigg, 2007, p. 25). Namely: 'agents and structures are not two independently given sets of phenomena, a dualism, but represent a duality... the structural properties of social systems are both medium and outcome of the practices they recursively organize' (Giddens, 1984, p. 26). Both structure and agency are therefore seen to be inherent in the formation of the other (see Brettel, 2002). Thirdly, structures are not viewed as pre-set rather agents can seek to 'change' 'resist' 'rework' and 'redefine' them (Rigg, 2007, p. 25). As Brettel (2002, p. 438) notes 'Giddens seemingly gives individuals the power to change the social system through purposive although not necessarily purposeful action'. Fourthly, that the habitus, in bringing past into the present, generates constancy to the social landscape (Bourdieu, 1980). It provides a grammar of living. And finally, that the ambition of habitus to transcend the usual binaries of 'individual and society' means it possesses 'an infinite capacity for generating products – thoughts, perceptions, expressions and actions – whose limits are set by the historically and socially situated conditions of its production' (ibid, p. 55). Whilst agency and individualism are recognised they are seen as to act within, reflect and help reproduce wider societal norms and practices.

Therefore, although the livelihoods approach is grounded within an agency-oriented framework, this is not to the deliberate exclusion of structural analysis and argument. Indeed structural discourses have been specifically sought out to counter some of its identified weaknesses, particularly with regard to power and politics. The characteristics of power and politics within contexts of violence are particularly pertinent and this brings us to the next key concept that underpins the research: vulnerability.

2.4.2 Vulnerability

Adger (2006, p. 269) sums up vulnerability as a negative concept concerned with 'susceptibility to be harmed'. Twigg (2001, p. 1) highlights the dimensions of vulnerability in terms of the 'economic, social, demographic, political and psychological'. Cutter, et al (2003), in contrast, note the bio-physical, social and the vulnerability of the built environment. Vulnerability, then, is an amorphous concept or at least one subject to multiple interpretations. Where the spotlight on its causes, manifestations and consequences falls, has much to do with the disciplinary perspective and platform it is being viewed from.

Within the livelihoods approach, two attributes of vulnerability are discernible. Firstly, vulnerability is primarily associated with material need, poverty and lack of entitlement. Secondly, individuals, households and communities are viewed as 'operating in a context of vulnerability', of trends, shocks and seasonality (Twigg, 2001, p. 9, Adger, 2006). The livelihoods approach therefore already acknowledges that the concept of vulnerability supports inter-scalar analysis and may work at different scales; a characteristic that is used within the thesis to draw and link discussion across scale together. However, to view vulnerability solely in terms of impoverishment limits its scope and diversity. Vulnerability and poverty are linked but are not synonymous (Bankoff, 2001): 'Vulnerability is not just poverty, but the poor tend to be the most vulnerable' (Twigg, 2001, p. 1). More specifically for the research, and in line with the critiques of livelihoods set out above, vulnerability in terms of power and politics needs to be considered.

Violent contexts challenge some of the founding principles of the livelihoods approach, such as entitlement. Sen (1981) acknowledges the limitation of entitlements in situations where rights are violated. Illegality, economic violence, asset stripping or systematic community exclusion distort its principles and command functions (Jaspers and Shoham, 2002, Collinson,

et al., 2002, Collinson, 2003). Vulnerability subsequently alters. It is not solely associated with poverty, but can be political, social or cultural and can be linked to ethnic group, religious affiliation or political association. In situations of violence and/or conflict the concept of vulnerability is transformed from an association with poverty and material need to powerlessness. As a result, other elements of the livelihoods approach also alter and alternative considerations come to the fore. Assets to benefit livelihoods in stable contexts, such as land, may be transformed in contexts of violence into liabilities. Possession, access to or use of such assets may heighten the likelihood of targeting or territorial contestation (Jaspers and O'Callaghan, 2010, Lautze and Raven-Roberts, 2006). 'Identity politics' may ensue (Le Billon, et al., 2000, p. 5). Political vulnerability may find expression in the potential to be exploited or coerced (Goodhand, 2001, Jaspers and O'Callaghan, 2010). Economic violence may find expression in 'neglect, exclusion, exploitation' (Le Billon, et al., 2000, p. 2). In such circumstances vulnerability increases as the field of livelihood options and choices narrows (Schafer, 2002). As Le Billion et al state (2000, p. 12): 'It is when coping strategies are deliberately blocked or manipulated that populations are most vulnerable'. In empirical settings such as Somalia, Sudan or Afghanistan the very notion of development may become intensely contested. Livelihood strategies and associated outcomes may shift. Ambitions for some may be no more than survival. For others, livelihoods and war economies may intertwine (Jaspers and Shoham, 2002, Collinson, 2003).

Such realities appear removed from the way in which 'progress' is defined within the outcomes of the SLF. They also sit uneasily with contexts in which identity and territory intertwine and control is contested, for example Tamil areas of Sri Lanka and the Occupied Territories of Palestine. A power /vulnerability binary develops that can often be closely related to ethnicity or political identity (Jaspars and O'Callaghan, 2010, Collier, 2000). In this sense: 'The concept of vulnerability has been a powerful analytical tool for describing states of susceptibility to harm, powerlessness, and marginality of both physical and social systems' (Adger, 2006, p. 268). This understanding of vulnerability, and the importance of power(lessness) and identity to it, finds purchase throughout the thesis particularly in the empirical chapters. The concept of vulnerability is also integral to hazard and risk.

2.4.3 Hazard and Risk

The literature on risk transverses a range of academic disciplines. Beck's (1992) seminal text on an increasingly reflexive industrial society concerned with addressing the risks it generated

in its drive for advancement, put risk on the map. However, for the purpose at hand the key aim is to conceptualise how risk is encountered and negotiated. Therefore a different literature is turned to, namely that of disaster risk reduction (DRR) that has at its crux vulnerability.

Up until the 1980s the field of disaster prevention and recovery was dominated by technical interventions whose focus was on the prediction of hazards or the mitigation of their impact. Risk and disasters were objective and quantifiable factors and events, reflecting in the tendency to talk and write about 'natural' disasters. Increasingly this approach was challenged by political/human ecologists that argued there was no detachment between disasters and social systems (Adger, 2006). Rather disaster was a product of hazard and risk, and was intimately tied to vulnerability. In this discourse the following definitions of hazard and risk are to be found:

Hazard: 'extreme natural events which may affect places singly or in combination' (Earthquakes, landslides, hurricanes etc.)

Risk: a function of hazard and vulnerability
'R=H+V'

(Blaikie, et al., 1994, pp. 21-23).

Alongside the concept of resilience, which shall be returned to later, vulnerability was at the core of this analysis (ibid, Blaikie, et al., 1994, Wisner, et al., 2004). Disasters were viewed as 'not simply the product of one-off natural phenomena' (Hilhorst & Bankoff, 2007, p. 3). Rather, they were recognised as being intertwined with a differential vulnerability to hazards that was a historical outcome of political, economic and / or social process (ibid). Risk was then analysed through the lens of vulnerability in hazardous situations.

To conceptualise the processes of disaster, Blaikie et al (1994) put forward two models: The pressure and release (PAR) model and the Access Model. The PAR model is of most relevance for the discussion here. It traces the progression of vulnerability to disaster through a number of steps, as illustrated in Figure 2-2. In doing so the model successfully links two previously separate branches of hazard research, that of the physical sciences and political/human ecology: 'The analysis captured the essence of vulnerability from the physical hazards tradition while also identifying the proximate and underlying causes of vulnerability

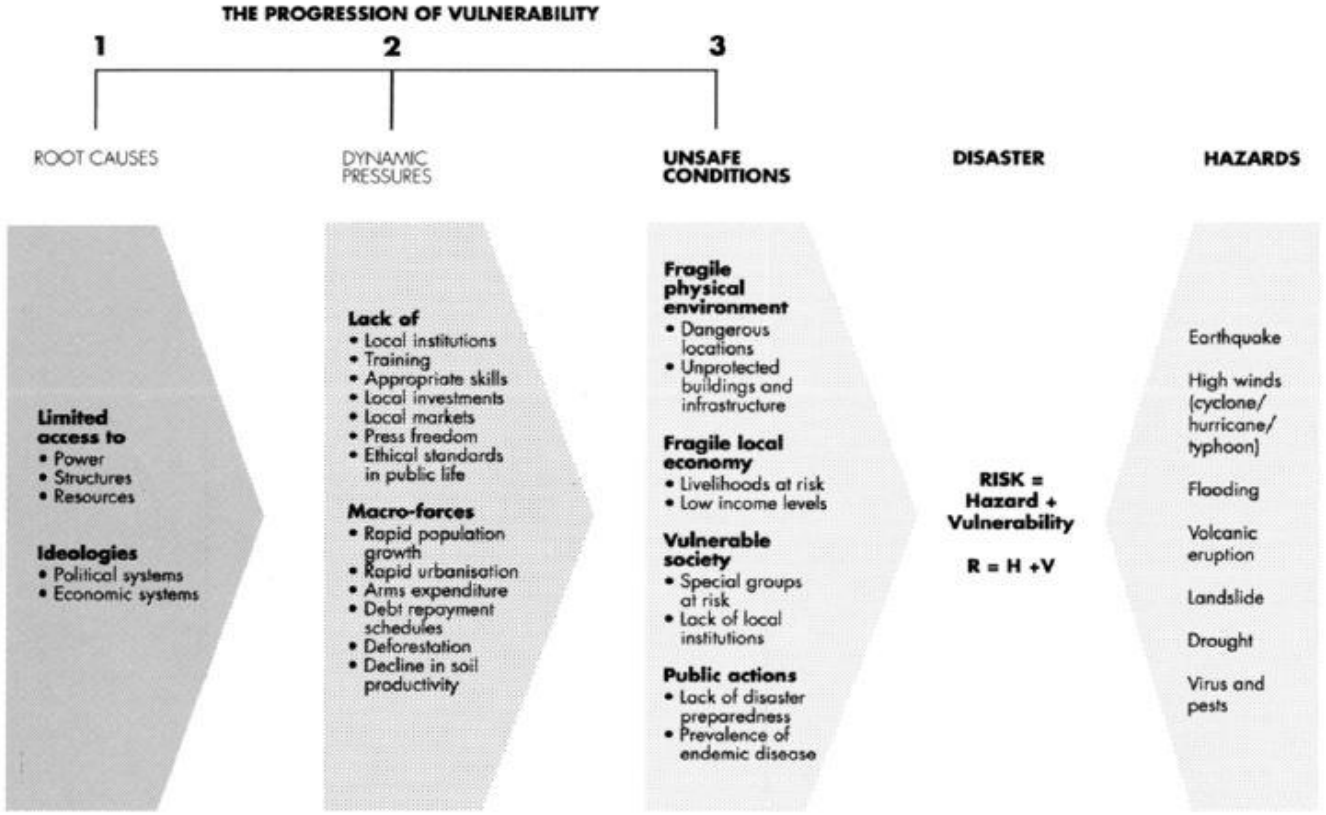
within a human ecology framework' (Adger, 2006, p. 272). In sum it highlights the relationship between the physical and social characteristics and dynamics of risk (ibid). Although PAR was designed in relation to natural hazards, parallels can be drawn with the man-made hazard of contamination in its analysis of the generation of risk through: 1) Root causes that reflect power, marginality and the distribution of resources within society, as played out through economic, demographic and political processes. They also reflect the functions and functioning of the State; 2) dynamic pressures which are the activities and processes that channel root causes into unsafe conditions, such as urbanisation, out-migration, deforestation. Some dynamic pressures may be near universal due to the global integration of economic and political systems, others highly individual to the context at hand and; 3) unsafe conditions, created by the relationships between root causes and dynamic pressures.Conditions and lack of state protection (Blaikie, et al., 1994, pp. 21-25, Wisner, et al., 2004, pp. 52-55).

These are the spatially and temporally specific ways vulnerability becomes expressed in relation to a hazard. This includes engagement in dangerous livelihoods and living in dangerous environments. However, there are limitations to the PAR model. Blaikie et al (1994) and Wisner et al (2004) sound a cautionary note regarding the singular cause and effect typologies that overlook the dynamism and multiplicity of components of analysis. There is increasing difficulty in making connections as analysis moves along the chain of unsafe conditions – dynamic pressures – root causes. Yet, the very focus of the model is to shed light on the linkages between disaster and social causation. The core argument is that 'variations in level of vulnerability to hazards are central in differentiating the severity of impact disaster on different groups of people' (Wisner, et al., 2004, p. 93). For the research these ideas are important. In particular, they help shape the discussion in Chapters 5 and 6 on the degrees to which livelihood activities are undertaken in hazardous, contaminated environments, post-conflict, and Chapter 7 on informal clearance practice.

This discourse is also important because of its discussion on risk perception:

> 'Vulnerability is also about people, their perceptions and knowledge. People's ideas about risk and their practices in relation to disaster constitute the sextant and compass with which they measure and chart the landscape of vulnerability. Perception, of course, is not knowledge, nor does knowledge necessarily

Figure 2-2 The Pressure and Release Model



(Blaikie, et al., 1994, p. 23)

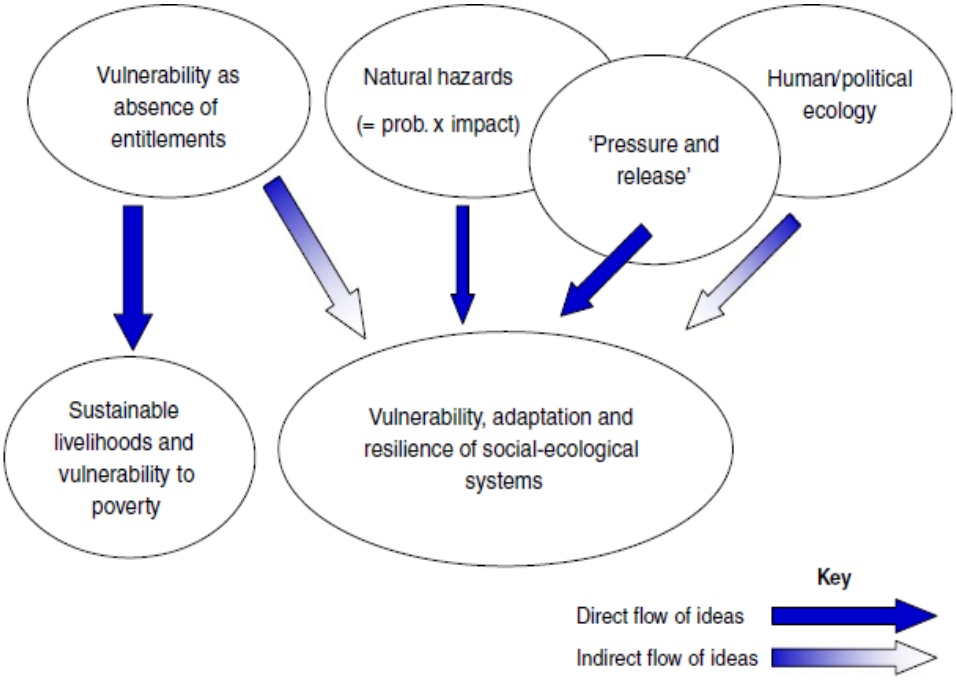
> translate into action. Yet perception is important in understanding why people exhibit certain behaviours.'
>
> (Hilhorst & Bankoff, 2007, p. 4)

Understanding how risks are perceived helps understand livelihood choices made and strategies employed. As with risk taking behaviour, a disaggregated view is necessary here as Heijmans surmises (2001, p. 1): 'The degree of perceived risk varies greatly among households and depends on class, gender, location, and other particular conditions shaped by economic, social and political processes'. Therefore understanding risk as a variable, nuanced, social construct that has vulnerability at its heart requires an approach that considers and interprets the micro-level. The livelihoods approach is of course grounded at the micro-level, and thus this is one of the ways livelihoods and DRR can be used in a complementary manner.

Adger (2006) highlights that despite distinct intellectual heritages, both DRR and the livelihoods approach link to an understanding of vulnerability as lack of entitlement, as illustrated in Figure 2-3. In this instance, although lack of entitlement needs to be viewed through a lens of powerlessness, as just discussed, DRR and the livelihoods approach can nevertheless be used in a mutually beneficial manner for research. Livelihoods brings insight to DRR through its emphasis on consumption, methodology and measurement at the micro-scale (ibid). The DRR approach brings to livelihoods an appreciation of socio-ecological systems and the dynamics of risk in relation to livelihoods' concept of natural capital. This latter point, as Adger postulates, is 'largely unaccounted for in this area of research' (ibid p. 272).

Given the hazardous environment caused by contamination, risk needs to be incorporated into the conceptual framework and DRR helps fill this gap. Further, broadening understanding of vulnerability from sole association with poverty and consumption, and integrating ideas of adaptation and resilience have the potential to generate new perspectives (ibid). This is the stance the research here takes. Yet it is not only the livelihoods approach that works at the micro-scale, so too does the well-being approach. Moreover, well-being taps into less tangible drivers such as ambitions, emotions and perceptions that influence decision making and behaviour, as now discussed.

Figure 2-3 The Intellectual Heritage of the Livelihoods and DRR Approaches



(Adger, 2006, p. 271)

2.4.4 Well-Being

Rigg (2007, p. 32) comments that in the application of the SLF, livelihoods have been viewed 'in empirical and largely material terms; a livelihood is a way that an individual or a household "gets by"'. A livelihood is therefore about money, food, labour employment and assets'. Yet in the section above, the importance of risk perception in the playing out of everyday practice was highlighted. This points to a set of different, and non material, considerations: the importance that beliefs, feelings and values play in our everyday lives.

White (2010, p. 162) situates the well-being approach as a 'cousin of livelihoods'. Summed up as a set of processes across time of the material (standard of living) – relational (social and human relations and relationships) – and subjective (perceptions on position and cultural ideologies, beliefs and values), it affords consideration to both the material and non material (ibid). Building on elements of social capital and TSPs already existing within the livelihoods approach, well-being is helpful in a number of ways. The inclusion of the subjective means the person, their priorities and their perspectives are afforded attention (White, 2010). This

helps deal with the non material drivers to understanding livelihoods as will be discussed across the empirical chapters. Methodologically, it also opens up data collection to 'subjective accounts of how people are doing and feeling' (University of Bath et al, 2011, p. 2; see also McGregor, 2006). Further the subjective is grounded geographically and culturally, it is localised and collectivised. Individual perceptions matter but so do the wider values, morals and beliefs that may be present within a given community. Linking back to Bourdieu's (1980) notion of a culturally and historically driven habitus and dispositions there may be 'a shared understanding of how the world is and should be' (White, 2010, p. 160). Along with the livelihoods approach, the concept of well-being therefore underscores the relational elements of everyday living. It highlights how 'people become who and what they are in and through their relatedness to others' (ibid. p. 164). Whilst this may help shape collective, or oppositional, identity, it also draws attention to notions of negotiation, access and power, to the potential for structural constraint that may operate across scales and are influential in shaping the everyday. These ideas will be drawn upon in Chapters 5, 6 and 7.

Finally development praxis, including the clearance of contaminated land, is inherently driven by the generation of material benefit. Yet well-being and wealth are not synonymous terms. Indeed they may not be regarded as necessarily related. As Rigg notes (2007, p. 36) '"development" in material terms does not automatically translate into well-being'. This disconnection broadens the horizon on what outcomes or impact may be perceived to follow clearance. Rather than considering impact solely in the more material terms of capitals and income of the livelihoods approach, it gives latitude to consider other elements that do not automatically tie into generation of material gain. These ideas will be discussed in Chapter 7.

Being mindful of the earlier discussion on the need to recognise structure alongside agency, it is perhaps timely now to turn attention from the minutiae of individualism and subjectivity that frames the well-being approach to some of the more structural considerations that may act upon livelihoods in the field sites. Two key bodies of literature are introduced here, post-colonialism and the political economy of conflict.

2.4.5 Post-Colonialism

Radcliffe (2005, p. 292) highlights that given 'postdevelopment's wholesale rejection of development tout court is viewed as unconstructive and analytically clumsy', the

intersections between development geography, post-colonialism and the subaltern, first linked in the mid 1990s, have received increasing attention (see for example Sidaway, 2002, Blunt and McEwan, 2002, Power, 2003, Power, et al., 2006, McEwan, 2009). Meaningful intersections have been sought irrespective of the mismatch between on the one hand development studies: 'an applied field of social science – managerial in thrust, practical in orientation', and on the other, post-colonial studies: 'not an applied field...[that] re-examines a long historical, cultural, and spatial record in which colonies and postcolonies appear as (problematic) children of European History' (Sylvester, 2006, p. 66).

Indeed drawing together these fields is not without its problems. Amongst development geographers engaging with post-colonial theory, and those focussing upon development studies more generally, there is acknowledgment of post-colonialism's lack of attention to the material, the practical and the political. As McEwan (2003, p. 342) puts it 'solidifying the fundamental schism between western theorising and the practical needs of impoverished people globally'. There is a tendency to focus upon the post-colonial past to the detriment of post-colonial futures (ibid). Yet Radcliffe identifies five areas of development geography where the focus of post-colonial approaches is settling namely: post-colonial statehood; post-colonial power relations; 'stretched out geographies'; social difference and voice in post-colonial societies; and issues of fieldwork (2005, p. 294). These understandings have relevance for the research, as set out below.

The fixation spatially and temporally on the relational with a Western metropole, as found within post-colonial geographies underplays the hybridism of colonialism seen in: current external colonialisms (Israel/OPT; China/Tibet), internal colonialisms (Sri Lanka), deep settler colonialisms (Zimbabwe), and break away settler colonies that have displaced and relocated colonial control (USA; Australia) (McClintock, 1992, p. 88). Post-colonial development geographies can then add insight through deconstructing a singular notion of colonialism into spatially differentiated (post)colonial landscapes. Post-colonial statehood examines the 'contemporary issues of imperialism, sovereignty and relations of power (and) the specifics of different types of colonial power relations over a diverse range of countries' (Radcliffe, 2005, p. 294). This helpfully moves analysis on from the North-South binaries of postdevelopment (ibid). It finds resonance with both political relations within the Middle East more broadly, and the violence and conflict found within southern Lebanon associated with Israel, Syria and a myriad of militia and their external supporters, in particular. Using a post-colonial lens allows such conflicts and violence to be situated: 'Postcolonialism revisits the past in order to

recover the dead weight of colonialism: to retrieve its shapes, like the chalk outlines at a crime scene, and to recall the living bodies they so imperfectly summon to presence' (Gregory, 2004, p. 9). In doing so a thread is drawn and tightened, pulling the past into the present. As will be expanded upon in Chapter 4, that details the context to the research, the mine action sector and the communities it works with are intimately situated within and linked into this past, within the present. Clearance activities are directed by the patterns of hostilities the past contains. Room for manoeuvre for the sector and communities alike are influenced by the structures and stakeholders of the post conflict landscape, and wider relations of power both national and supranational that this sits within.

The role of imaginative geographies and Said's (1978) concept of the 'Other'[11] in the production and performance of violence (and its resistance) is also important to consider. In discussing the colonial present, Gregory (2004, p. 16) highlights that it is 'not produced through geopolitics and geoeconomics alone...It is also set in motion through mundane cultural forms and cultural practices that mark other people as irredeemably Other; and that license the unleashing of exemplary violence against them'. Gregory draws upon the work of Der Derian (2002 paragraph 21) to note how: 'People go to war because of how they *see, perceive, picture, imagine,* and *speak of* others: that is, how they construct the difference of others as well as the sameness of themselves through representations'. Representation and production of imaginative geographies flow through to the justification and performance of violence that is at times extreme. Such incidents take Agamben's concepts of Bare Life and Homo Sacer outside the camp (Agamben, 1998, Gregory, 2006). The spaces of exception are widened to the non exceptional; to the everyday. This finds resonance with the conflict and contamination suffered by the communities involved in the research, as will be detailed in Chapter 4. Indeed the literature notes how the 34 day war of July-August 2006 in South Lebanon articulated in very real ways an external 'erasure of corporeality' and 'the biopolitical project that has become central to late modern war, and, most of all, to the 'war on terror'' (Gregory, 2006, p. 24 and 57, Sylvester, 2006). Explicit and implicit reference to the Other and imaginative geographies consequently run throughout the thesis. However, as concepts they most readily support the analysis found within the empirical Chapters 5, 6 and 7.

[11] Referred to as Other within the thesis.

Adopting a post-colonial position can help give a voice to the Other. It can aid the voice of the subaltern to come across direct and unabridged by the institutions of development and their actors, or indeed researchers. Uncovering hidden voices is one of the approach's key benefits; not only to expose and reveal grounded knowledge from the locale and its 'intricate, emotive histories' (Radcliffe, 2005, p. 295), but to shed light on how such knowledge and voices are accounted for in development praxis. Namely to understand not only the degree to which the institutions and agents of development 'can and do listen to the subaltern individuals and groups (but importantly) what they do with what they are listening to' (McFarlane, 2006, p. 45). This is an issue that comes to the fore in Chapter 8 in discussing the policies, processes and practices associated with the delivery of clearance services.

Finally, also providing meaningful understanding to the research are the 'stretched out geographies' of post-colonial thinking. This is particularly with regard to transnational networks of conflict (as discussed in Chapter 4) and accompanying aid frameworks that operate within and beyond landscapes of conflict and violence. These may come in a number of forms. For example understanding how dominant framings and discourses occur, may be co-constituted and how they play out (such as the livelihoods approach as already discussed). This moves analysis of transnational development networks on from 'linkages between organizations such as donors, states and NGOs across space (to) the geographies of practice that constitute, or are constituted by, these networks' through which 'certain forms of discourses, knowledge, ideas, or practices become dominant' (McFarlane, 2006, p. 41). It also highlights the internal and external networks between colony, metropole and beyond, that facilitate the emergence and continuation of conflict. The work of Le Billion (2001) and Power (2001) in relation to Angola's civil conflict attend to the scale and reach of such interconnectedness. It was a combination of initial arms supply from the United States and South Africa, the actions and failures of international actors, and the allegiances with African neighbours that facilitated UNITA's aims. Safe trading and transit routes in Zambia, Burkina Faso, Cote d'Ivoire, Togo and Rwanda sustained revenue streams from diamond mining, whilst supply networks in commodities and training included hub airports in Entebbe (Uganda), Kinshasa (Democratic Republic of Congo) and Polokwane (South Africa). Even civil conflicts therefore should not be viewed as solely internal affairs. Indeed during the course of data collection respondents themselves spoke to both issues, as will detailed in Chapter 8.

2.4.6 The Political Economy of War

Unlike the SLF, political economy has at its heart a power/vulnerability binary. It seeks to understand the 'power and wealth between different groups and individuals, and on the processes that create, sustain and transform these relationships over time' (Collinson, et al., 2002, p. 1). When used in situations of violence more specifically, the analysis evolves to 'the political and the economic aspects of conflict, and how these combine to affect patterns of power and vulnerability' (ibid. p. 2). Within this body of literature there are a number of areas of discussion that are useful for the research, as detailed below.

The approach affords attention to the nature, history and roots of conflict and violence. Using principles similar to those found in the PAR model, Cliffe and Luckham (2000, p. 293) note that 'one should start from an adequate understanding of the historical and structural antecedents of violent conflicts'. Understanding the root causes to violence and conflict, for example political change, economic dislocation, marginalisation and so on, means questions of 'why' will be easier to answer: Why is the state's legitimacy contested? Why has trust broken down? Why are particular groups exposed to violence and not others? (ibid, Collinson, et al., 2002, Collinson, 2003). Understanding the nature and history of violence then helps uncover why contamination and clearance occurs where it does, and why certain groups, such as those in the field sites, are vulnerable to experiencing conflict. Chapter 4 considers such matters.

The approach also gives recognition to the actors and stakeholders of contested environments. Mine action may operate within a militarised landscape, with the presence of international structures of conflict prevention, peacekeeping, protection and both humanitarian and developmental aid interventions. It is a crowded marketplace. The literature highlights the stakeholders that may act within such landscapes and the potential outcomes of this: the manipulation of aid, relief goods or services by military actors to support the struggle; issues of gaining access to particular target groups and/or sensitive locations, tactical use of populations to protect strategic interests; and so on (see Le Billon, et al., 2000, pp. 15-17). There are, therefore, certain constraints to contend with and take account of both methodologically and analytically that this literature helps identify. Suspicion, difficulty gaining entry and instilling a sense of trust amongst those involved with the research may all be encountered. Even when entry is granted the data collected may be adversely affected: 'Security concerns influence people's ability to provide information, while

others attempt to produce rumours as part of military strategy' (Schafer, 2002, p. 33). These issues will be discussed in Chapter 3.

The political economy approach is explicit in recognising violence as not just destructive but also transformative, as alluded to earlier within this chapter (Collinson, et al., 2002). As Cliffe and Luckham (2000, p. 311) state 'once violent conflict emerges, it transforms itself and all those around it – the state, livelihoods, national economy, social relations' (2000 p2). Relationships, power and access to and control over resources may be reshaped. Conflict may erode or destroy some forms of social capital, but it can create new forms. References are made within the literature to how increased criminality, the circulation of arms and issues of political and economic control can spill over into peace time (Goodhand and Hulme, 1999, Ghufran, 2007, Rogers, 2008). Spaces of legitimacy and criminality may be redefined in the post conflict landscape (see for example Le Billion's (2008) account of the territorialisation of space within diamond mining).

'The transformations that conflict brings about in the wider political economy are mirrored in varied, profound and often irreversible changes in people's lives at the local level (Collinson, et al., 2002, p. 10). This theme runs throughout the thesis. It is evident in the suffering associated with contamination, as discussed in Chapter 5. The terms coping and/or adaptation are often applied[12]. Shifting opportunities, constraints, threats and risk are responded to, as discussed in Chapter 6. Consequently, some livelihoods benefit, some come into competition, some are oppositional, and some suffer (Collinson, et al., 2002). It is acknowledged widely within the literature that the burden of war is not equally shared. There are winners and losers to conflict. Generally it is non-combatants that shoulder the bulk of suffering. Further impact is differentiated between men and women; between generations; as well as between different livelihood groups (Goodhand and Hulme, 1999, Collinson, 2003).

For the research, two extensions of this discussion are of concern. Firstly it is not just differential vulnerability to conflict and violence that should concern us. Rather there is the additional factor of differential vulnerability to the *outcomes* of conflict and violence, which includes, as Goodhand and Hulme (1999) has noted, contamination. Secondly, the impacts of aid interventions need to be set against the transformative nature, dynamism and

[12] These terms have been critiqued due to unease with their appropriateness to situations of direct attack (see Jaspers & O'Callaghan, 2010).

components of the larger forces of conflict and violence. As Cliffe and Luckham (2000, p. 311) state: 'any intervention by outside or even internal actors is but one of those forces and cannot be the decisive factor in determining outcomes'. SaferWorld's concept of 'interaction' has purchase here. Namely there is a: 'two-way relationship between an intervention and the context in which it is situated' (SaferWorld, 2001, pp. Ch.1, p.2). It is not just an intervention that (attempts to) have impact on the context, but as will be seen throughout the thesis context impacts the intervention.

2.5 Concluding Comments: A Nested Approach to Livelihoods

The above discussion has covered a lot of ground. The range of literatures included stretch from those whose emphasis is more structural and macro-scale - post-colonialism, political economy of conflict, hazard and risk - to approaches centred upon micro-scale agency and everyday practice - well-being and livelihoods. It has also covered key concepts for the research in the binaries of vulnerability/power and structure/agency. Having detailed the benefits, insights and perspectives they each bring, and in particular how they can be used to strengthen the livelihoods approach for the research, the issue at hand is how to draw them together coherently. How can they be used to ground the changes contamination and clearance bring to livelihoods and local development spaces in the field sites, that comprise sites of contemporary conflict, violence and aid as depicted in the opening sections to this chapter? Two mechanisms will be used to this end. Firstly an adapted livelihoods framework will be used to provide conceptual structure. Secondly this framework will be nested amongst the literatures detailed above so the benefits they bring to analysis can be drawn on. Given their ability to draw links across scale and enable inter-scalar analysis the approach is then drawn together through the lenses of vulnerability and resilience.

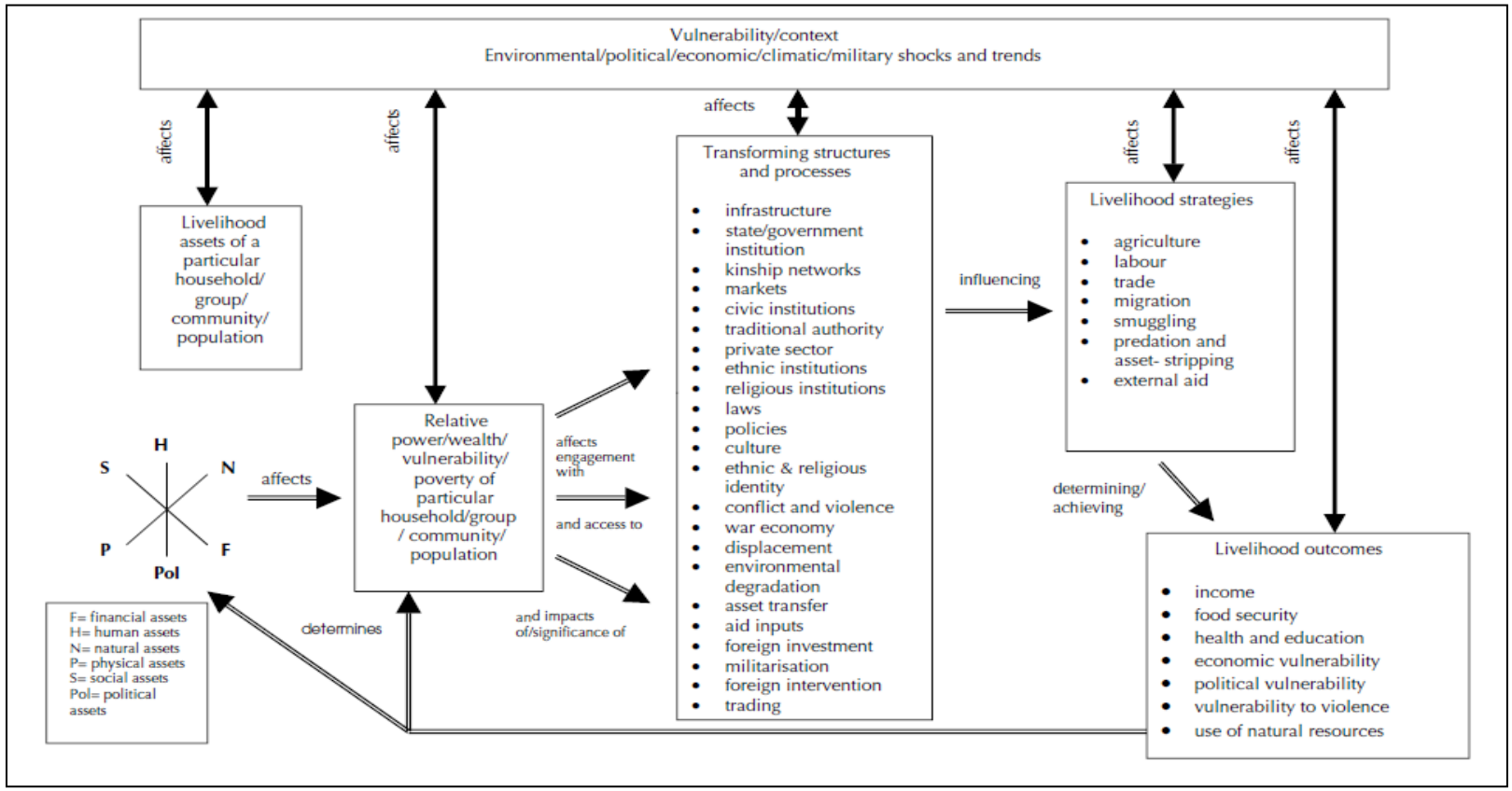
The livelihoods approach is the principal organising framework used within the thesis given the centrality of livelihoods to the research objectives and questions and its ability to bridge both academic and applied enquiry, as this research demands. Yet it is not used dogmatically. Rather it acts as a guide to methodology and analysis but is reflexive and open to the benefits of other literatures. In particular it cannot ignore the 'processes and the structures of life which lie above the local but which impinge on the local' (Rigg, 2007, p. 38). The framework needs to be adapted to account for the history, roots and nature of violence and conflict; their destructive and transformative effects; and the stakeholders and actors involved in the

(post)conflict landscape. Following work within the Overseas Development Institute (ODI), an adapted livelihood framework to situations of chronic conflict and political insecurity is consequently used (Figure 2-4).

Whilst taking the organising principles and components of the livelihoods approach, this framework has the political economy of conflict at its heart. As such the influence of vulnerability on all components of livelihoods is significant. Further, an interpretation of vulnerability in terms of powerlessness as opposed to poverty is used. This framework allows for landscapes that are subject to military shock, and recognises the impact of this. Shock in this context allows for situations not be in total war, nor at total peace (Collinson, et al., 2002, Le Billon, et al., 2000). Contexts can be of tipping points, uncertainty and tension. Hostilities, whilst prolific and pervasive are not necessarily endemic or continuous. The *potential* for violence or conflict however may be an everyday threat. Indeed conflict can become 'entrenched in the fabric of society' (Collinson, et al., 2002, p. 29). This is recognised within some of the TSPs within the framework and the stakeholders and actors of contested landscapes they point to. Livelihood strategies (or pathways and trajectories) and outcomes are also modified from the one-directional drive to improved living standards conceptualised within the original SLF. Instead, recognition is given to how everyday living may improve, decline, become embroiled with war and the war economy, or relocate. Fundamentally here the aim is to conceptualise and embed livelihoods in the context at hand and 'link local conditions to wider political and economic environment at the national and regional levels' (Collinson, 2003, p. 9). Building on this, the adapted SLF is then nested amongst other literatures, as per Figure 2-5 below, so that the benefits they bring to the research can be drawn upon.

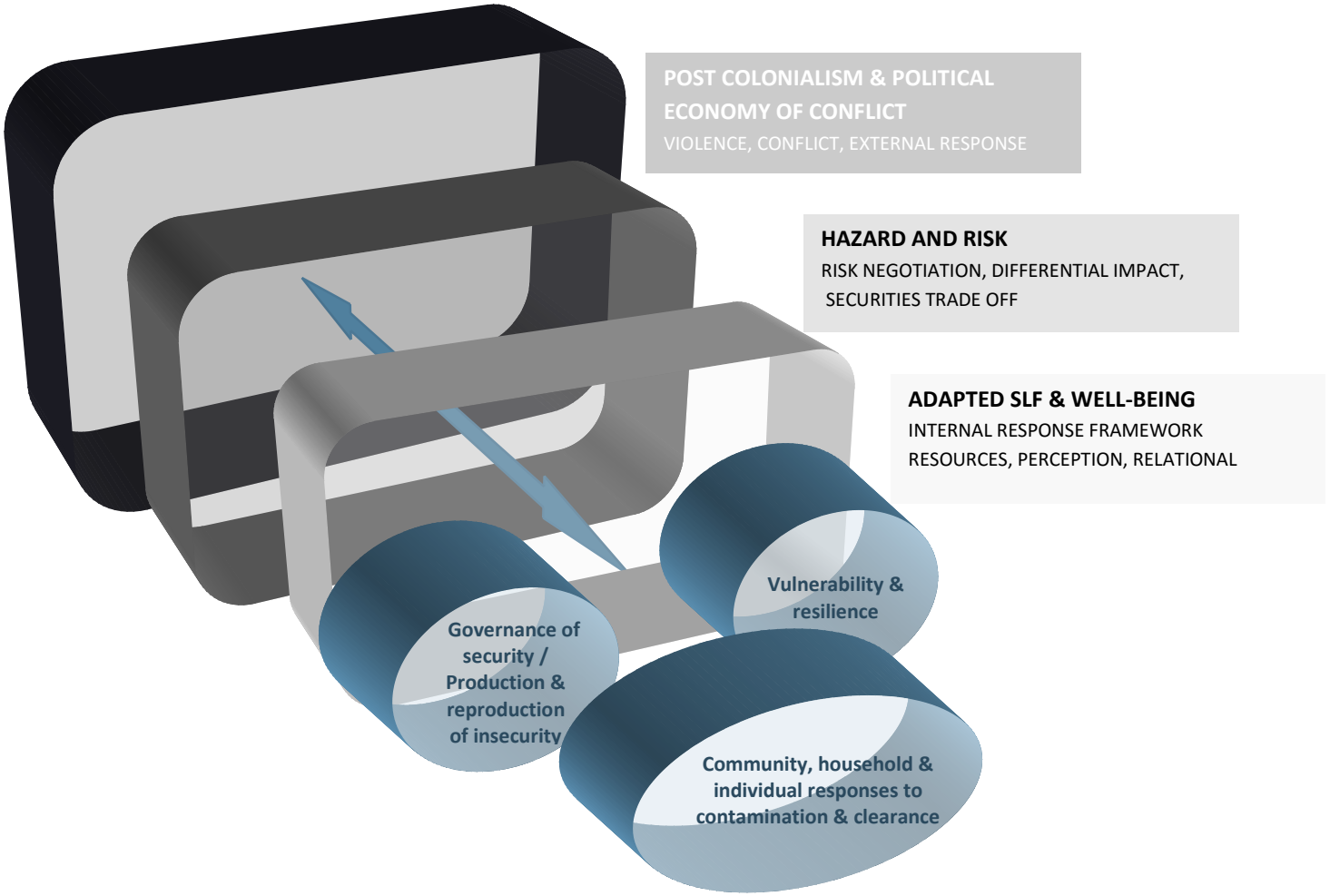
Ideas and thinking from post-colonialism and the political economy of conflict help understand the causes, manifestations and outcomes of conflict and violence. It brings into the frame power and politics and thus more aptly captures the landscape within which data collection occurs. Literature on hazard and risk accounts for the more immediate context of risk livelihoods in the field sites. It accounts for the differential impact hazard, in this instance contamination, may have on livelihoods and the influence of vulnerability within this. It also facilitates discussion on the perceptions and negotiations surrounding risk that shape livelihoods. Moreover, well-being adds the subjective and non-tangible elements of livelihoods - values, perceptions, feelings – to the equation. Along with the livelihoods approach, it underscores the importance of the relational.

Figure 2-4 The Livelihoods Framework Adapted to Situations of Chronic Conflict and Political Stability



(Collinson, et al., 2002, p. 26, Collinson, 2003, p. 13)

Figure 2-5 A Nested Approach to Livelihoods



Collectively, the conceptual framework adopted is one adapted to the context under investigation, that seeks to counter the known limitations of the SLF, and that is open to both more structural and agency driven perspectives so that influences on livelihoods across scale are accounted for. Whilst each of these literatures is typically viewed as operating at a particular 'scale', and indeed can appear so from their depiction within Figure 2-5, there is danger in this. Just as the agency perspective afforded by well-being, embedded within the individual and subjective, includes analysis of structural concerns such as access and social inequalities, so also does the literature on political economy of conflict, with its focus on macro-scale issues of violence, also concern itself with the effects of insecurity on the individual. That is to say when examined, the literatures are not confined to a certain 'scale'.

Further, as noted within the literature there are multi-scalar and inter-scale issues at hand such as livelihood diversification and relocation (see Ellis, 1998, Rigg, 2007). Recognising the influence of scale means there may be a transformative nature to the changes produced by contamination and clearance depending upon where it is viewed. Policy and programming objectives may blend with local complexities and realities, and then again with experiences and perceptions of change. This ultimately shapes the findings relayed at the ground level, the level that the research works at.

There is a requirement therefore to be cognisant of and attuned to issues of scale. Within this research concepts of vulnerability and resilience specifically support inter-scalar analysis and link concerns of different scale. These concepts, again, also underline the relational nature of livelihood. Devereux (2001, p. 509) notes that:

> 'Vulnerability is determined partly by risk factors that are *generic* to groups of people who are connected geographically or by shared risk characteristics ('exposure'), and partly by risk factors that are *specific* to individuals or individual households ('susceptibility'). Although an entire community might face exposure to a livelihood threat such as a drought or food price inflation, susceptibility or resilience is differentially distributed across households depending on relative wealth and access to alternative income sources, including support from extended family and social networks.'

Much has been said on vulnerability thus far. Yet what has not, that the above points to, is its dynamism as a process across time as well as scale: To find as much purchase in analysing a context of vulnerability of shocks, seasonality and trends as to framing individual responses to such contexts.

Resilience, in being the positive to vulnerability's negative (Adger, 2006), can be similarly applied. It is also similar in its inter-disciplinary application and likewise has presence, explicitly or implicitly, in the discourses discussed above. Within the literature related to livelihoods specifically, its use as an explanatory tool finds purchase with a range of analytical concerns. For example: the ability of livelihoods to recover from, cope with, or adapt to, stresses and shocks (Scoones, 1998, Devereux, 2001); the relationship between resilience and capacity, access to assets and individual circumstance (Adger, et al., 2002, Jordan, 2012); strategies to bolster resilience in stable and unstable contexts (Scoones, 1998, Jaspers and O'Callaghan, 2010); and the constant dynamism, reconfiguration and reworking of livelihoods that occurs including situations when resilience within the status quo is impossible or unattractive (Rigg, 2007, Scoones, 2009b).

Throughout the thesis, the associations between resilience and livelihoods will emerge in a variety of guises conceptualised as: resilience as robustness; resilience as return (or bounce-back-ability); and resilience as transformation. Collectively with vulnerability, resilience forms a lens through which literature can be drawn together across scale, as denoted in Figure 2-5. However, importantly these conceptulisations of resilience denote an understanding of livelihoods as *resistance*. In line with the literature on crictical geo-politics, conceptualising livelihoods as resistances draws together the relational and resilience elements of livelihoods. The theme of livelihoods as resistance runs throughout the empirical chapters. It is integrated into the patterns of everyday living in the field sites. As Alatout (2009, p. 963) observes, in contested environments there can be the transformation of 'mundane daily practices into political frameworks of resistance' (in this instance at the wall separating Israel and the Occupied Palestinian Territories). Resisting the organisation of dominant political relations belies how violence and contamination are responded to within the field sites, and the patterns of clearance that emerge. Acts of resistance are integrated into livelihoods in a variety of forms, including how contamination and clearance are encountered and viewed.

The primary aim of this chapter was to introduce the core conceptual thinking and frameworks that underpin the research. Through the discussion above, a conceptual framework has emerged that uses an adapted SLF, a nested livelihoods approach and the lens of vulnerability and resilience to draw discussion together. This framework, in sum, seeks to capture and make sense of livelihood change associated with contamination and clearance. Linking back to the academic-applied nature of the research as explained within Chapter 1, whilst the research therefore remains grounded within a framework well-known to, and practiced within, NGOs and other aid institutions, academically it takes an inter-disciplinary approach to thinking and analysis. This brings important considerations to the fore; the links between livelihoods and resistance being particularly pertinent to this piece of research. The literatures introduced here provide a platform from which to engage with academic discourse throughout the remainder of the thesis. In the following chapter, the methodological implications and challenges of using a livelihood approach and applying it within an context of (in)security will be detailed.

CHAPTER 3
PLANNING AND PRACTICE: RESEARCHING THE IMPACT OF CONTAMINATION AND CLEARANCE ON LIVELIHOOD

3.1 Introduction

Upon heading out to the field in April 2010, the research protocol and the research questions it sought to illuminate were, apparently, clear. Sitting under an overarching strategy of in-depth case studies, a package of research methods had been designed to generate primary data, and additionally allow the testing of different methodologies in the field. Yet from the first days of field work in Lebanon these methods were tested and contested. It may be a truism for field research that things rarely turn out quite as expected, particularly in the Global South, but in this instance the disjuncture between what was planned and what was practiced was particularly profound. It led not only to the need to restructure the research protocol, but reflect upon and integrate into the thesis the reasons why.

It is the aim of this chapter to set out, discuss and reflect upon the methodological transformations that have underpinned this research. In doing so it will also examine the following methodological research questions that form part of the applied rationale of this research:

How can any practical and ethical challenges of researching the impact of contamination and clearance in insecure contexts, with vulnerable populations, be addressed?

- What approaches to data collection helped to work within the field sites?
- What research methods were best suited to capture livelihoods and the impact of contamination and clearance had on them?

What biases and limitations result in the data, if any?

- How and why does data become compromised (if at all)?
- What limitations surface in the data due to the way it has been collected?

Rose (1997) argues that research is a product of a researcher-researched-research dynamic, where context takes centre stage. In line with such thinking, this chapter is structured around two principles. Firstly, the research process may not be as neat and straight forward as can appear in the literature. Rather, as will be demonstrated, the research had to adapt and evolve to meet the field conditions and the challenges they presented. Secondly, as this research attests, even under – what seemed to me at the time – the most challenging circumstances, it is still possible to generate data.

The chapter will take a narrative approach to the evolution of the research methods and protocol in the face of contextual challenges. It will commence with an explanation of the design, refinement and alterations made to the research prior to field study. It will then examine the field realities of implementation and how, once in the field, the research protocol evolved to adapt to circumstance and context. The research methods and forms of data analysis used will then be detailed. In the final section of the chapter, reflections on the research process will be put forward, focussing particularly on how issues of fear and security, power and control, and research ethics came to the fore in shaping and defining the research conducted. I argue that these effects manifest themselves not just in the research methods, but the everyday research practices that sit around them and the 'backstage' decisions that underpin them (Fujii, 2010, p. 239). To this end I argue that 'doing development research' provides opportunities beyond data generation alone. There is the opportunity to be open and reflexive about the challenges encountered, how they were overcome and where compromises had to be accepted. Through disclosure on such research practice, along with the finished products of research, a more holistic picture of field realities emerges, which can only help in preparing for future research encounters.

3.2 Pre Field Research: Evolving Aims and an Evolving Research Protocol

The first set of transformations to the research protocol emerged prior to field departure. The location and methodology to the research was amended in response to developments

within the mine action sector on impact assessment and changing conditions in the field, as discussed below.

3.2.1 Identifying how to Contribute

Historically within mine action, there has been an emphasis on ex-ante understandings of impact, as discussed in Chapter 1. To counter this and capture ex-post impact, quantitative and qualitative methodologies have been used with resulting benefits and drawbacks (see , Millard & Harpviken, 2000, Harpviken, et al., 2003, Elliot & Harris, 2001, Harris, 2002, Centre for International Cooperation and Security, 2005). With no clear consensus on best practice, the starting point for the research was to use and test a variety of research methods: participatory tools and techniques, questionnaire surveys, semi-structured interviews and oral histories. Given the academic and applied background and purpose of the research, this mixed methods approach sought to incorporate both traditional academic research practice alongside tools commonly adopted within the aid sector.

This methods mix was refined by developments within the mine action sector itself on impact assessment. In September 2009, I presented at the workshop 'Impact of Mine Action', organised by MAG. This workshop provided a forum for independent researchers, academics and actors from MAG, the Danish Demining Group and the Geneva International Centre for Humanitarian Demining, to share ideas on the issue of impact and detail progress on initiatives currently being implemented. At this time four other research or mine action impact assessment initiatives were underway, all of which had either completed field trials or were under full implementation. This research, in following in their footsteps, then had the opportunity to build on findings and lessons learned, avoid duplication and more precisely identify how it could contribute to debate. Consequently the protocol was fine tuned. Expanding the research base beyond that of the household was aimed for, through community level profiling. To avoid duplication, the weighting between different methods was amended. The level of surveying, the dominant method in the other initiatives, was reduced. The perspective of 'safe communities' was adopted namely what the threat specifically is, or was, was not to be regarded as significant as the presence of a threat, the impact of that threat pre and post clearance, and the processes around its clearance that influence impact. Finally there was the aim to select communities with differing temporal positions to clearance to investigate any longitudinal change to livelihood that was associated

with clearance. This was the research protocol agreed between MAG, Durham University and myself to be implemented in the field. At this time 'the field' was Angola and Laos, but developments after September 2009 led to the need to reconsider this choice, as will now be explained.

3.2.2 Field Destination Choices and Changes

At the commencement of the research project, Angola and Lao People's Democratic Republic (PDR) had been selected as the sites for field research by the CASE supervisory team and myself for empirical and practical reasons. Empirically, these countries offered the opportunity to study the effects of a range of contamination and clearance given the presence of landmine, UXO, cluster munition contamination and some SALW stockpiles within their borders. Moreover, the different post-conflict transformation contexts they provided within rural Asia and Africa were of interest. Practically, the established presence of MAG in these countries, and the geographic expertise of the supervisors, were also thought to benefit the research. Desk based research on these countries, including the presence of contamination and structures of clearance, and planning for field research was therefore undertaken in preparation.

Through winter 2009/10, it became clear that difficulties in obtaining visas for Angola and resource constraints in MAG Lao PDR meant these countries were no longer practically viable choices for field study. After discussion, a suggestion by MAG to change the research to Lebanon was accepted. Although Lebanon did not have stockpiles of SALW, it otherwise fulfilled the criteria we sought to satisfy and offered certain advantages. It possessed a range of contamination types and the longitudinal dynamic to clearance. The willingness of the MAG programme to host the research, availability of staff to support it, and easier logistics were attractive. Moreover, being based in Lebanon alleviated fears of research fatigue and duplication given another mine action impact assessment was ongoing in Lao PDR. Whilst it was acknowledged that a comparative analysis would be lost, the ability to study in one location had appeal.

With the decision made just 10 weeks prior to departure, a work plan of reading, identifying target groups and potential field sites, building relationships with the MAG Lebanon programme and revisiting research questions was drawn up and worked through. The change

in country of study inevitably led to less time to gather, digest and reflect upon the literature, which was a concern. Yet, the short preparation time had the potential to bring benefit to the applied elements of the research. How the research was able to accommodate such change became an interesting question in its own right.

3.2.3 A Defined Research Protocol

Upon heading out to the field in April 2010, the research objectives and protocol were clear, or at least they seemed to be so.

Objective 1
To examine and assess how the amelioration of risk, achieved through the removal and clearance of mines and explosive remnants of war (ERW) reworks local development spaces and livelihoods.

Objective 2
To develop and test methodologies to assess, track and measure the impact that mine and ERW clearance has on livelihoods, which can then be used to inform operational planning and policy debate and direction

A package of research methods had been designed to serve two purposes. Under Objective 1, the aim was to generate data to answer the empirical research questions regarding contamination, clearance and livelihood. Under Research Objective 2, the methods themselves were the object of study, to be tested in the field. The research protocol therefore blended epistemological and ontological concerns. Theoretically I took a social constructionist perspective to the questions that lie behind Objective 1. The objective realities posed by hazards, natural or human-made, were accepted but so too were the social and cultural mediations of risk in everyday livelihood practices, as discussed in Chapter 2. However, Objective 2 required that I set any epistemological and methodological associations aside to test different methods, as the applied aims of the research were pursued. Consequently, the research protocol knowingly drew together research methods and practices of different traditions. This methods mix enabled not only their performance in the field to be tested, but also any weaknesses associated with individual methods to be overcome. Extracts from the project design submitted to the mine action authorities in Lebanon, are included in Box 3-1 below.

Box 3-1 Research Protocol upon Arrival in Lebanon

It is envisioned that the research will be carried out in four communities within the MAG Lebanon programme. Specific communities will be selected in conjunction with the MAG UK and Lebanon. Key criteria on the selection of specific field sites include:

1) Time since clearance. Field sites will cover communities that still suffer from contamination; were cleared within 12 months; were cleared between 3-5 years ago; and were cleared 8+ years ago.
2) Contamination type (mix of mines / cluster bombs / other UXO).
3) Community size, to support accessing the target number of households.
4) Ideally within the same geographic region for contextual considerations.

Selecting four communities within each programme with differing temporal positions in relation to clearance is aimed at providing longitudinal insight into any changes in livelihood trajectories that have occurred. The investigation of longitudinal change can be considered one of the research's key strengths, being a unique feature amongst the other impact assessment initiatives currently underway.

Project Research Methods

Following community profiling, at present the following research methods are being considered for implementation in each field site. They will be finalised in conjunction with the programme to ensure that they are culturally and operationally appropriate.

- *Community Impact Analysis.* Aims to provide community level analysis of change through the use of participatory research techniques. Techniques that may be used include diagramming, focus group discussions and photovoice. Ideally the ownership of the research will be handed over to participants to lead. Consultation with the programme on the appropriateness and shape of this approach if appropriate would be beneficial

- *Questionnaire Surveys.* 15-20 key questions only. Used to provide data in its own right, as well as identify key households / individuals for further research. Target of 30 households in each community.

- *Livelihood Histories and Ethnographies.* Implemented at the intra-household level in a two-stage process: 1) Follow up semi-structured interviews with a target of 15 individuals or households from a random stratified sample identified during the questionnaire survey process. 2) From this group a further 5 individuals will be identified to capture their oral histories through unstructured interviewing. These methods will aim to track how individuals and their families have responded to clearance activities.'

Extract from CASE Project Outline, submitted to the Lebanese Mine Action Centre (LMAC) May 2010

From the first days of field work, however, this research protocol and the assumptions that had been made in its development were tested and contested. As field study commenced, the change in location revealed itself to be one of the defining aspects of the study. Field realities presented conceptual, planning and operational challenges. It unsettled my understanding of the contamination environment and shaped research encounters with affected communities and wider stakeholders. The context of instability came to the fore in directing what research could be undertaken. The difficulties encountered, how they were overcome or worked around, and the resulting protocol used, will now be discussed.

3.3 Field Realities: A Methodology Tailored to Circumstance

Once in Lebanon, the recruitment of one male and one female research officer[13] and driver commenced, as did processes to acquire the necessary permissions for travel to clearance sites, past and present, from the LMAC. Travel to villages was not permitted until this was granted which afforded the opportunity to hold a workshop with the research officers. Both were recruited from the areas of study, they were trained in the research methods and the livelihoods framework, and collectively we sought to localise understandings of livelihood. From this, the research schedules were amended and tested on MAG staff which led to further refinements. Secondary data collection also commenced, as did meetings with MAG staff on field processes around clearance and site selection. At this point, challenges to the research protocol started to become apparent within two broad categories: conceptual and planning challenges and operational challenges.

3.3.1 Conceptual and Planning Challenges

Analysis of secondary data on contamination and clearance led to the identification of 12 potential field sites, in conjunction with MAG Lebanon staff. These field sites ranged from small rural villages to larger peri-urban settlements. The shortlist was prioritised based upon time of clearance, types of contamination, size of population and location. With permission to travel to villages initially granted, preparations for scoping visits to prioritised sites were made and background data were collected. Contact and meetings with the village Murktah

[13]The term 'officer' rather than 'assistant' is used here due to the comparability of the post to other 'officer' roles within MAG Lebanon. The posts were therefore advertised as 'research officer'.

(mayor), Municipal Leader (elected leader of the village council) and local stakeholders, where appropriate, were held to request permission locally. With permissions granted nationally and locally to conduct the research, familiarisation with the communities, through site visits and discussions with village leaders on livelihoods and history of contamination and clearance followed. This process challenged my understandings of the field situation on a number of fronts.

Firstly, it was possible that villages had two populations. Occupancy during summer and winter could vary. Conflict and wider regional economic and political developments had led to mobility locally, nationally and/or internationally. This in turn led to differential residential, landowning or occupancy patterns. Further, there was reluctance amongst village leaders to discuss actual population figures, or where figures were gained, they were incomplete. Electoral rolls based on residency only captured residents over 21 years of age. Official population village totals captured those registered at birth in the village, regardless of location of actual residency. This presented a challenge to defining a sampling frame. As the research progressed it also meant that the number of respondents involved in the research, as a proportion of the total population of the two field sites, could not be determined.

In addition it became clear that my understanding of contamination was overly one-dimensional. Contamination was accompanied by contamination and damage and just damage by explosive ordnance with no contamination, each of which could elicit a different clearance response from the mine action sector. In addition, the visits confirmed the secondary data that within villages there were multiple dates of contamination and clearance. The reality was much more fluid. Villages could possess numerous contamination and clearance sites that fell across a number of temporal categories as conflict re-erupted and work on clearance was interrupted, continued or was reassigned. Consequently, although the research initially aimed to provide longitudinal and comparative insight into livelihood change through contamination and clearance, this ambition was quickly rescinded when in the field. In terms of contamination and clearance, communities simply did not fit into nice, crisp, comparative, categories. Consequently, whilst nuances and differences between the field sites could be highlighted, a structural comparison became problematic and was not attempted.

The question of what clearance was also came to the fore. Clearance appeared to come in

many forms: by homeowners themselves, by village leaders, by political groups, by entrepreneurs selling skills in ordnance handling, as well by clearance agencies such as MAG and the Lebanese Army - the only forms of clearance officially recorded, in line with international standards. These issues are re-visited in the empirical chapters to this thesis, yet suffice to say at this point, my understanding of contamination, clearance and livelihood had been rather simplistic.

With these understandings and subtleties in mind therefore, wordings and categories were revisited before piloting. Multiple types and dates of contamination were accounted for as were multiple locations of residency. Categories for the types of clearance were expanded. The second round of piloting then started, this time in the field. Yet it was stopped on the first day and the operational challenges to the research became clear. This first day of piloting was amongst a number of issues that became definitive in influencing and shaping the research ultimately conducted, as explained below.

3.3.2 Operational Challenges

The more challenging field encounters that I came across whilst conducting field research from April to August 2010. Working in a context of insecurity was defining in directing the research undertaken and also shaped the research encounters with respondents. Kovats-Bernat (2002, p. 210) advises that 'traditional research strategies assume ideal field circumstances for interacting with informants...but what one discovers when working in dangerous fields is that these conditions rarely exist'. [redacted]

In these circumstances, research was possible, although not as originally planned. After piloting was stopped, the research work plan and protocol were back on the table for re-evaluation and reworking. This had a number of implications for the research, discussed below.

3.4 Negotiating the Field: Implications for Research Protocol and Methods

Given the context, implications for the research protocol were inevitable. Standard methods and tools were dropped or adapted to circumstance and context; ethical challenges were negotiated; and the research officers changed to two male colleagues, after losing one (female) officer to the UN, was followed with difficultly in recruiting another female willing to work in the field sites. The most substantial implications for the research are discussed below.

3.4.1 Amended Research Objectives and Questions

Critical questions arose and needed to be addressed. Was I able to conduct the research in southern Lebanon at all? If so, could the research objective of testing methods still be pursued in this security environment? Moreover, what livelihood information could be realistically collected in this context? Consequently, a discussion between MAG, Durham University and myself on relocating the research to another, less restrictive, region of Lebanon followed. Although tempting, given the impact of the 2006 conflict and the extent of cluster munition contamination used within this region, I felt another attempt at making progress in the initial sites was warranted. Accordingly we agreed to find a way to work within these communities. This involved shifting the research objective and removing research questions that might be regarded as sensitive. Rather than testing different methods, I would utilise the circumstances as an opportunity. The objective therefore evolved to primarily establishing an approach and format of data collection suitable to use in insecure situations with the potential of suspicion. Secondarily, if possible, I would see what testing of methods I could achieve within this, and consider the limitations this posed on the data. Not only was this clearly applicable to the context of South Lebanon but it was thought that it might also have resonance for other contexts where mine action agencies work in areas that are politically tense or contain communities that are mistrustful. The evolution of the research objectives and questions are detailed in Table 3-1.

Table 3-1 Research Objective and Question Progression

Empirical Objective 1: To examine and assess how the amelioration of risk, achieved through the removal and clearance of mines and ERW reworks local development spaces and livelihoods.	**Empirical Objective 1:** To examine and assess how the amelioration of risk, achieved through the removal and clearance of mines and cluster munitions reworks local development spaces and livelihoods.
1 **How does contamination impact upon livelihoods in the field sites?** - How is vulnerability affected by contamination - How is livelihood security affected by contamination? - Do livelihoods in contaminated environments vary between different community subgroups, households and individuals, and if so why and how?	As before
2 **What impact has clearance had in the field sites on livelihoods and local development spaces?** - How does clearance re-work livelihoods and livelihood security locally? Are local livelihoods, or components of livelihoods reworked /unsettled / transformed due to clearance? - How do different groups or individuals populate the new development spaces created by clearance? - Are the benefits / disadvantages of clearance equally experienced - Does clearance harm some groups who have adapted creatively to their vulnerability in livelihood terms?	Removed due to sensitivity: Does clearance harm some groups who have adapted creatively to their vulnerability in livelihood terms?
3 **How can any variations in the impact of contamination and clearance on livelihoods, within and across the field sites, be explained?** - What are the moulding forces behind the above and (how) do they vary? (What factors sit behind the findings and changes the data has revealed?) - What controlling mechanisms operate in the risk context? (What are the structural issues?)	As before

Methodological Objective 2: To develop and test methodologies to assess, track and measure the impact that mine and ERW clearance has on livelihoods, which can then be used to inform operational planning and policy debate and direction	**Methodological Objective 2**: In insecure contexts is it possible to answer questions around impact and what learning can be gained from the research to inform operational planning and policy debate and direction?
1. Which methodology/ies most effectively measures the impact of remnants of conflict and clearance on livelihood security? - What methodologies are proven as best able to map, trace and gauge recovery and livelihood change in post-conflict situations? - How effective were the 3 different methodologies used within the field; how did they perform? - Is it possible to gain the same level of effectiveness in measuring impact irrespective of which post-conflict phase clearance has occurred in, or the type of remnant of conflict that has been cleared, or does the design need adapting by context, and if so how?	- **1. How can any practical and ethical challenges of researching the impact of contamination and clearance in insecure contexts with vulnerable populations be addressed?** - What approaches to data collection helped to work within the field sites - What research methods were best suited to capture livelihoods and the impact of contamination and clearance had on them
2. How can the research's findings be translated to most usefully to inform operational planning and policy debate and direction? - What are the needs and how can they be best met? - What learning can be drawn operationally from these results to improve clearance's impact? - What intersections are there between remnants of conflict contamination and its clearance and wider livelihood concerns? (To aid the identification of entry points of engagement between these different sectors?) - How can this learning improve policy within the sector to maximise the benefit clearance can make?	**2. What biases and limitations result in the data, if any?** - How and why does data become compromised (if at all) - What limitations surface in the data due to the way it has been collected?

Methodological Objective 2: To develop and test methodologies to assess, track and measure the impact that mine and ERW clearance has on livelihoods, which can then be used to inform operational planning and policy debate and direction	**Methodological Objective 2**: In insecure contexts is it possible to answer questions around impact and what learning can be gained from the research to inform operational planning and policy debate and direction?
	3. How can the research's findings be translated to most usefully to inform operational planning and policy debate and direction - What learning can be drawn from the empirical research findings - What learning can be drawn from the methodological research findings

3.4.2 Amended Target Field Sites

To recognise the difficult working environment, the target of four field sites became two. If, after returning to the UK, it was felt the data were insufficient, the possibility of returning to Lebanon to conduct further research would be revisited. Reflecting the reality of contamination and clearance on the ground, the community and the contamination and clearance contained therein was approached as a whole. Arrefir in Nabatieh Governorate and Sahnen in South Governorate became the two target villages (see Figure 3-1 below).

Figure 3-1 Nabatieh and South Lebanon Governorates of the Field Sites

(UN Department of Field Support Cartographic Section, 2010)

Both Arrefir and Sahnen lay within 20 km of the Blue Line, the UN delineated border between Lebanon and Israel. Arrefir primarily suffered from landmine and cluster munition contamination from the civil war and Israeli occupation of South Lebanon covering the period 1975-2000. Originally it was used as a replacement pilot site. Once piloting was underway and the acceptance of the research and work in the selected sites was agreed, pilot testing began and the community became field site 1. Sahnen primarily suffered cluster munition contamination from the 2006 conflict between Hizbollah and the IDF. Whilst there were initial concerns in using Sahnen, given its proximity to the location where we had been detained, initial meetings with the Murktah and municipality leaders were well received. This meant not only that the research still incorporated the initial principles of different contamination types and different temporal relations to contamination and clearance, but appeared to have the good will of the villagers.

3.4.3 Amended Research Methods

In the field sites, the mix of methods was adapted. In sum it shifted towards qualitative data collection and away from Participatory Learning and Action (PLA) tools and quantitative methods. This was both in response to definitive limitations to the information I could collect, and identifying practices which generated suspicion as the research process unfolded.

From the outset certain research methods and tools were dropped and the approach was refined. It became clear that in certain circumstances there were boundaries on what would be acceptable. The use of global positioning systems (GPS) was tightly controlled by the LMAC, being restricted to specific mine action tasks. Using GPS for research was consequently not advised and ideas around the use of GPS to identify and map land use within the field site were not taken forward. Using maps, asking for population data or information on household members also created suspicion. As with GPS, the underlying fear was that street layouts, sensitive areas or household survey data would be identified, logged and passed over as valuable information to the Israeli authorities. Indeed, a notion was held by some that I could be working for the Israeli authorities. (A number of high profile espionage charges were made against Lebanese nationals whilst I was in Lebanon.) Trying to get around incomplete population data and conduct sampling by using maps was consequently dropped. Ideas of investigating livelihoods through community profiling and participatory mapping techniques were also set aside, along with participatory activities to log community layouts, land use and amenities. Transect walks were dropped when it became clear there could be sensitive areas

within the community. Public 'exposure' of participants in group work such as focus group discussions was avoided. Rather, household members were talked to individually or in groups. Photographs proved permissible in one field site when accompanied by a local representative but not the other, but in both sites no photographs of individuals were taken. How the research methods evolved when in the field are summarised in Table 3-2.

Consequently, the overall balance between different research methods shifted towards qualitative data collection and away from quantitative data collection and PLA. The difficulty in determining a sampling frame or conducting household surveys led to the downplaying of quantitative data collection. In addition, PLA methods generated difficulties on a number of fronts. Despite its association with the livelihood approach and its reported alignment to local conditions (Chambers, 1994, Lilja & Bellon, 2008, Westley & Mikhalev, 2002), as noted above there were boundaries with certain PLA tools such as mapping. More fundamentally perhaps, the overall ethos of PLA, a process driven and owned by the communities themselves, was undermined. The way the research ended up being conducted, namely quickly and intensely (see below), was incompatible with imbuing a sense of ownership. There was not the luxury of time.

3.4.4 Amended Sampling Method

These amendments not only affected the methods themselves, but which households were included. Information was collected using purposive sampling, through snowballing. As households were not specifically targeted in line with their relation to clearance, a mix of direct and indirect household experiences of contamination and clearance, within a defined community, were captured. First points of contact for snowballing were the Murktah and Municipal Leader for the community. To mitigate against becoming trapped within particular village networks, two strategies were followed. Away from the field site, where reference to maps could be made, I discussed with the driver where in the village we had and had not been so we could target the unvisited areas. Snowballing was also started with what the research officers termed 'randoms'; namely residents we approached on sight to see if they would be willing to participate. The success of these strategies meant at any one time there would normally be four or five snowballing threads running through the respondent list.

Collectively then, using purposive sampling in two field sites, semi-structured interviewing with quantitative and qualitative data collection and scope for expansion, evolved as the key

Table 3-2 Field Progress Against Original Test Methods

Planned Test Method	Purpose	Data provided	Progress and Workarounds
Community Profiling	- To provide situational account of lives and livelihoods within village from key informant. - Background information. - Settlement history – land use patterns – economic and social profile etc	- Quantitative and qualitative data - Data at community level	- Questioned on the applicability of the information for MAG - Going forward limited to Murkhtar and Municipality Leaders - Wider community questions integrated into interview schedule
PLA Tools **May use a variety of techniques: timelines, mapping, ranking and scoring exercises and impact flow charts..**	- To provide self-analysis of change. - Ownership of research process handed over to respondents - Can integrate GPS and mapping of community land use and contamination and clearance plots	- Community level data	- Not attempted - Use of GPS not possible - Inability to use certain tools such as mapping - Overarching concern over level of trust and rapport needed with community for effective use
Min 30 household surveys in each field site using random stratified sampling.	- Collect household data on livelihood assets and strategies - Identify households for follow up with subsequent methods - Can integrate GPS of specific contamination and clearance plots	- Categorical, quantitative data for statistical analysis - Data at household level	- Difficulty in establishing sampling frame - General household data collection proved unsuitable during piloting - Shift to purposive sampling with limited household data taken

Planned Test Method	Purpose	Data provided	Progress and Workarounds
15 semi-structured interviews and 5 oral histories using purposive sampling from surveyed households	- To provide narratives of change and eye-witness testimony on how individuals and their families have responded to contamination and clearance	- Qualitative data provided - Data at household and intra-household level	- Interviewing and elements of oral histories integrated into survey/interview schedule above - Principle of one visit per household
Field Notebooks / Diaries	Self-analysis by research team of thoughts on research and its progress	- Self-analysis by field staff	- Completed to varying degrees

mechanism to generate household data. The data collected and the practice of the research itself sought to answer two research objectives. As initially conceived data collection was targeted at answering empirical research questions regarding the impact of contamination and clearance on respondents' livelihoods. Methodologically however, the aim was now to establish a format of data collection suitable for situations of mistrust and suspicion, and if possible, see what testing of methods I could achieve within this.

3.4.5 The Implemented Methodology and Reach of Research

Culminating from the above the research methodology became based around the following (reflections on this methodology follow in section 3.6 below):

I. Pre-departure desk research
II. Interviews with key informants – Murktah and Municipality Leader
III. Household semi-structured interviewing – capturing both qualitative and quantitative data
IV. Interviews with former residents/outside workers of the field sites
V. Interviews/meetings with mine action stakeholders
VI. Informal encounters / casual conversations
VII. Observational notes and photographs (where possible)[14]
VIII. Field diaries
IX. Secondary data on mine action – task dossiers, contamination and clearance data, technical briefings, funding
X. In-country official and grey materials – UN, governmental, third sector and academic

The interviews were 'respondent interviews' namely:

> '…those taking place amongst social actors who all hold similar subject positions and have appropriate experiences which attend to the research goals...respondents are relied upon to speak primarily of and for themselves – about their own motivations, experiences and behaviours. Respondents

[14] Although photographs were permissible in one field site when accompanied by an official, as it was clear some respondents wished their contributions to the research to be completely anonymised, no photographs of the field sites are included in the thesis.

> interviews may be particularly worthwhile when attempting to understand similarities and differences within certain groups.'
>
> (Tracy, 2013, p. 141)

Item III above was the key data collection method. Myself and a research officer would both sit with respondents (and at times their family and/or friends) whilst these interviews were conducted. The field officer would make the introductions, explain the research, acquire consent and ask if there were any concerns or queries before we began. Once underway, he would then act as translator to the questions I asked and the responses that were received in turn. Unable to record interviews I wrote these responses down, at times in verbatim and in others in note form, particularly when the speech was rapid. As soon as possible after the conclusion of the interview we would debrief. This was particularly useful to clarify points I was unsure of, or had not been quick enough to fully capture. At this point observational data were also captured on the interview schedule.

This one interview schedule needed to satisfy a number of criteria, and this requirement shaped its final form. The schedule needed to:

I. Investigate livelihoods but in association with contamination and clearance
II. Allow room for manoeuvre to explore should interest in a line of questioning arise
III. Allow us to work quickly and lightly; a principle of generating data from one household visit was adopted as subsequent visits could not be guaranteed
IV. Allow scope to collect different types of data to see what testing of methods could be achieved
V. Be sufficiently clear to satisfy stakeholders that had sight of the schedule. For the second field site gaining agreement to the questions beforehand became a pre-condition of access.

In order to meet the above demands, the interview schedule evolved and two key features emerged:

Firstly, the schedule was packaged within the chronological framework to the processes of conflict, contamination and clearance and the household's experiences of it. This had a number of purposes: 1) as broader questions on the community and livelihood change had been challenged during piloting and interviews with key informants, questions became tied

to the specifics of contamination and clearance for which there was acceptance; 2) similarly tying the questions to contamination and clearance satisfied the security services; and 3) as discussing wider community issues in community profiling proved difficult, community-based questions that could be tied to the community situation post conflict were introduced at the beginning of the schedule, alongside some situational questions. This was an attempt to acquire this information directly through respondents.

Secondly, the one schedule contained different styles of questioning and questions targeted at gathering different types of data. Qualitative, oral history and quantitative data questions around contamination and clearance were all included in the one schedule. Selective household data questions were incorporated at the end, to ease its collection by allowing time for rapport with respondents to develop. This design evolved jointly out of the desire to test different methods, to be transparent to the security services on what questions could be asked given the range of circumstances of respondents, and to work to the principle of one visit per household. It attempted to garner a range of data in the one interview given further data collection with that household could not be guaranteed. In essence the schedule sought to cover all bases. However, it should be noted that not all questions were asked of all respondents. Questions relating to when the household arrived in the village, the land holdings of the household, and the contamination status of that land would all direct the sections of the schedule that were covered and the questions asked. An extract from the interview schedule, related in this instance to community profiling, is below in Figure 3-2. The full interview schedule is attached in Annex C.

The implemented interview schedule and approach can be characterised as adopting the principles of multi-tasking, working within established boundaries and using opportunism. Multi-tasking was manifested in assigning multiple functions to the resources the research had at its disposal. In addition to the multiple functions associated with the interview schedule itself, research officers not only translated and facilitated the research process but provided reflections on the research process and background information on the field sites. The research had to work within established boundaries. It had to be mindful of the situation of respondents and what being involved with the research could mean. It therefore took its lead from them as to the amounts of contact allowed or and the level of anonymity desired by respondents as per standard research practice. In both sites verbal, as opposed to written,

Figure 3-2 Extract of Implemented Interview Schedule

17. Can you please tell me about the contamination in [VILLAGE NAME] when your HH returned / arrived in [YEAR]

18. When you returned / arrived can you please tell me how else the conflict had affected life in the village

MAKE SURE COVER ALL PERIODS OF RETURN IF EXPERIENCED MORE THAN ONE CONFLICT

Prompts

Return to village and exposure

1. What was the contamination situation like - extent; intensity
2. How did they become aware of where contamination may be.
3. What was known about contamination and its risks
4. Where was the knowledge from MRE- previous exposure
5. What did they do when first got back - any self checking for contamination
6. Why did they do this if they knew the dangers

Affects on village

1. How was the village - what was destroyed/damaged
2. What was the service provision situation for the HH
3. What adaptations did their HH make to live in the village
4. What adaptations did the make to do their work / get by
5. How long before things returned to 'normal'
6. How important an issue was contamination at this time for the HH compared to these other factors

informed consent was sought. No recordings of interviews were made. Rather interviews were simultaneously translated by the research officers, whilst I took notes or word-for-word transcriptions. In terms of write up, in line with their wishes, some respondents have been given pseudonyms others are just referred to as respondents. I also had to work within established boundaries due to security issues. In the second field site in particular, only questions that had security clearance could be asked and our locations for the week ahead had to be approved in advance.

The research protocol was also opportunistic. The research experience itself became subject matter for reflection to consider not only what methods worked in this context, but how to work in this context effectively. Opportunism also characterised research encounters. As noted above, alongside interviewing and field observations, the protocol benefitted from informal encounters in the field with community members. These casual conversations were useful in building background knowledge on the field sites. They provided information on farming calendars, trends in agricultural prices and production, areas of contamination in the village, types of clearance, or even how the patterns to everyday living changed because of conflict. These situations were not as formal as 'walk-along' or 'go-along' interviewing (see Evans & Jones, 2011, Carpiano, 2009, Kusenbach, 2003). They were not planned but rather occurred by chance. Conversation could be instigated by either party. Whilst occurring outside (on a street corner, under a tree, outside a shop, whilst wandering along) they were not intentionally mobile. But they had similarities in that within the natural flow of conversation, the loci or environment of the encounter could act as prompt for reflection.

In this sense the most was made of interactions with respondents and stakeholders for data collection. Indeed being attached to the MAG Lebanon programme, provided additional opportunities to collect data and clarify understanding be it: collecting secondary data on field sites; holding meetings with staff to generate information on organisational prioritisation and clearance processes, as well as information management, recording, reporting and the structural organisation of the sector in country; and interviewing staff involved in clearance of the two field sites. Living with MAG international staff near to the programme's headquarters in Nabatieh led to many informal but informative conversations that accompany everyday matters such as making dinner, doing the washing up and shopping. Whilst my affiliation to MAG did give rise to issues of positionality that I will return to later, it provided a privileged insight into mine action and mine action in Lebanon, and helped clarify technical issues I would have otherwise struggled to understand. MAG also

provided entry points to other mine action stakeholders within Lebanon both nationally and regionally. This then presented opportunities to discuss the issue of impact or matters arising, either informally in social settings, or more formally when meetings had been set up to discuss permissions or to notify the authorities of plans and intentions.

Thus despite the difficulties encountered, through using this approach some 66 interviews were conducted within the field sites. Interviews ran between 40 minutes and 1 hour 20 minutes. A further nine follow up interviews, primarily of former residents affected by contamination that had moved away, or workers in the village who lived outside and travelled in, were also completed.

Table 3-3 Interview Reach

	Number Enquiries (Field Site)	Interviews Completed (Field Site)	Interviews Partial (Field Site)	Absentees	Refusals (Field Site)	Follow Up Interviews (Outside Field Site)
Arrefir	42	31	2	5	4	5
Sahnen	50	32	1	6	11	4

In both sites refusals came in waves. At the onset of snowballing, uncertainty regarding our presence and purpose led to scepticism on the part of some residents. With time, as our permission to operate by the Murktah and Municipal Leader became known, this eased and refusals turned to acceptance. However, becoming known drew attention to our presence and work to other stakeholders. At this point refusals rose again. Consequently, both sites demonstrated 'windows of opportunity' for data collection. In response, work was quick and intensive, particularly during this middle period of time when acceptance peaked. At this point multiple interviews were conducted daily. Therefore whilst field work overall ran from April – August 2010, primary data was collected within eight intensive weeks of work across the field sites as access allowed. Data collection was completed just prior to Ramadan in August 2010. This had long been held as a natural cut off point for the research due to how patterns of everyday living changed for families at this time, making access to households

potentially more difficult. The implications of the time spent in the field for data collection are discussed in section 3.6.2 below.

3.5 Data Processing, Analysis and Interpretation

Data processing and review commenced in the field. Quantitative data were entered and collated electronically as they were collected by the research officers. Due to time pressure, qualitative information was gathered but not processed. Rather it was read through in hard copy each day or so prior to writing up the field diary. During read-throughs points of information to cross-check and clarify, issues to investigate further and broad ideas emerging from the data to bear in mind or pursue were highlighted. Breaks in the data collection that occurred, as permission to work within the field sites was re-requested, afforded opportunities to follow discussion points arising with mine action stakeholders and gather secondary data, official documents and grey material. This was primarily held at the library situated within the United Nations Economic and Social Commission for Western Asia (ESWCA) in Beirut. Given how the research ended up working quickly and intensively, as noted above, the majority of data processing and analysis was conducted in the UK.

When back in the UK, the process of writing up primary data began in earnest. But it was not worked on exclusively. Rather given the influence the context to data collection had borne on the research process, and given how reflections on the methodology itself were a research objective, data write up occurred alongside drafting the methodological and context chapters to the thesis. Each was worked on in turn in blocks of time. As advised by Laws et al (2003), although collected within the same document, quantitative and qualitative data were handled separately. Data entry by the research officers was cross-checked and completed. Qualitative data held in hard copy was written up into electronic format. At this stage, data were 'cleaned'. Purposefully I did not attempt to actively analyse the data during this process. The aim instead was to write up what had been collected without pre-judgement. Once this was complete, the data was returned to in its entirety. Qualitative and quantitative primary data were read through in full a number of times and in conjunction with secondary sources. When (re-)familiarised, more detailed work on the data started.

In terms of quantitative data, the data that had been collected was nominal and ordinal. Importantly, as noted above, the sample was not representative. This in turn directed the

purpose and form of data analysis. Descriptive and categorical analysis could be performed, but not higher levels of analysis that would allow inference to the wider population or the relationship between variables to be explored in a statistically significant way (Fotheringham, 1997, Lovett, 1997). Quantitative analysis therefore drew together the categorical information provided by respondents. Its function was three-fold: to provide readers with more specific information on key points such as contamination and clearance, displacement and mobility, agriculture, employment sectors and so on; to highlight trends; and to help triangulate qualitative data and findings.

Qualitative data were analysed inductively. Using Nvivo, through a process of open coding, codes were assigned to the qualitative interview material. In total, 22 emic and etic codes were noted. Working within the codes and in an iterative process, axial coding identified a number of sub-categories. From this process, 85 codes emerged. The 22 'higher' codes and their sub-categories were then organised into broad groups. As Crang (1997, p. 188) notes: 'Codes provide a means for conceptually organising your materials but not an explanatory framework in themselves'. The qualitative material was worked with along with the literature, both on mine action and wider academic debate. It was also cross-checked with quantitative data, various types of notes from the field and secondary sources. This helped to affirm what was emerging and develop ideas.

Once satisfied, working with my supervisors, these ideas were then brought together under four headings: 1) contamination's costs and suffering; 2) coping with and adapting to contamination; 3) benefitting from clearance; and 4) discussion points. There was also an 'unassigned' category of codes that had emerged from the qualitative data which I did not feel I had sufficient data or other sources to elaborate on or substantiate. These four headings, in turn, provided the main thrust to the empirical chapters, cutting across both field sites and the empirical research questions.

With the context of data collection being so fundamental in directing the methodology, data analysis was approached inductively, and framed through the lens of the fieldwork. At the outset, a framework of grounded theory was therefore attractive (Strauss & Corbin, 1998). Yet, in the field, the time constraints acting upon the research meant the immersion between repeated episodes of data collection and analysis could not be easily accommodated. In essence, whilst data were reviewed in the field, processes of collection and analysis were necessarily discrete. During data analysis, 'narratives' came forward in the material. The way

data had been collected, chronologically working through a series of events, lent itself to narrative histories. As well as 'stories', there were narratives of clearance praxis, of political vulnerability, of resistance and resilience, of livelihood change and transformation. In discussing narrative analysis, Crang (2005, p. 230) notes how 'linking of people, places and events into stories' can provide a supplementary perspective to the other forms of qualitative analysis. Multiple first person accounts on the same events highlighted the significance of the position stories were being told from, and of individual and collective identity. Whilst 'stories' were part of the data collected in the interviews, it would be misleading to say that the research was a narrative analysis. As seen, unstructured questioning would have been problematic. Rather, a sense of narratives, and with it an emphasis on context, identity, actors and how individuals make sense of their lives and world, overlay the codes. It helped link the codes to the conceptual framework. It gave a thread to empirical discussion and importantly acknowledged that the data generated, and my analysis and interpretation of it, were situated.

3.6 Reflections on the Research Experience

Before turning to the conclusion, I wish to engage with a series of reflections on the research experience in the field, from the practical to highly subjective and reflexive. The literary basis for this working example of 'doing development research' within the Middle East is wide ranging. Within the development studies literature there is substantive writing and reflection on implementation of research in the Global South, both in terms of method and practice (see for example Robson & Willis, 1997, Cooke & Kothari, 2001,Laws, et al., 2003, Desai & Potter, 2006). However in this literature, the gaze of Anglo-American scholarship on the Middle East is outweighed by its African and Asian counterparts. Consequently, literature pertinent to conducting research in the Middle East, from the disciplines of anthropology and political science in particular, have also been drawn upon.

3.6.1 Performance of the Research Methods

In the end, the research methods fell back upon Crang's (2002 , p. 649) 'staple' of the semi-structured interview, into which survey material and questions more associated with oral histories were added. It was found to have a number of advantages: It was sufficiently structured to allow transparency to gain security clearance. The structure also helped ensure

a level of consistency between the field sites (Willis, 2006). It could include a variety of question types – from more open ended to the more direct – allowing rapport to build and easing respondents into the interview and allowing discussion to be on topic (see Tracy, 2013). Key areas were covered but there was scope (albeit within recognised boundaries) for respondents to follow lines of thought and direct the process (Willis, 2006).

Survey questions provided the quantitative data on areas of land that were contaminated, crops grown, number of employees on those sites and household data but it was the qualitative information that provided the 'explanations', 'patterns' 'attitudes' and 'opinions' (Willis, 2006, p. 146). Two questions are particularly illuminating on this point.

Q.67 What are the 3 most significant changes either positive or negative clearance has brought about for your household?

Q.68 In your own words, please describe your feelings about clearance in [VILLAGE NAME]?

The former, in the form of a survey question, re-affirmed the literature in eliciting responses such as 'work', 'safety', or 'no effect as we didn't need clearance'. The second question, whilst the word 'feelings' sometimes did require elaboration, generated a whole series of ideas: happiness, relaxation, confidence, liberation from oppression, freedom, and the right to self-determination. In this instance the qualitative data provided the colour and the quantitative the numbers and confirmed secondary data. Survey data questions focused upon areas where I thought the information was straight forward (areas of contaminated land etc). Indeed, Barker (2006) notes the appropriateness of field surveys, amongst other methods, to assessing disaster impact. In the field, however, survey questions were more likely to be queried. This, I believe, was because they focussed upon the assets of households and household characteristics. This more 'objective' data had the potential to be sensitive for some. In this sense it was beneficial to have the mix of question types.

Initially, the research protocol included in-depth oral histories. This unstructured narrative form of interviewing had been included for a number of reasons. It had the potential to consider 'specific places and peoples connected to them', key points of geographic enquiry (Riley & Harvey, 2007, p. 348). However primarily its inclusion was to 'focus on the experiences and perspectives of marginalised group members, whose views may otherwise be hidden or written out of formal accounts' (Tracy, 2013, p. 141). In post-colonial terms it

gave voice to the subaltern. It sought to hear the stories of those directly affected 'in their own words' (Sloan, 2008, p. 179). In the end the requirement to identify questions in advance made this research method impractical in its true sense. However, the ethos of oral histories, its aim to generate storytelling and garner eye witness testimony around past events is evident in the interview schedule, if not necessarily the form of questioning. Further, the stories gathered, of displacement, return, and resettlement and rebuilding homes in one's homeland from these questions, provided some key themes for the empirical chapters. I believe therefore, if possible, using the method more thoroughly would have been beneficial. This is particularly with the applied points of enquiry. I aimed to give voice to respondents' experiences of contamination and clearance, but with hindsight, it would have been insightful to also hear their voice in the recommendations.

3.6.2 Boundaries and Limitations to the Data

It is also important to note how the ways in which the fieldwork was implemented, the methods used, and the challenges encountered, placed boundaries and limitations on the research and the data collected. Two key issues are discussed below: time and the sampling method. Issues of translation, insecurity and power, and the implications they had on the research are dealt with separately in the sections to follow.

Issues of access and consequently the time spent in the field was a limitation. As noted above work was intensive and, for a PhD thesis, relatively quick. This time pressure did make working conditions more akin to that of NGOs, and therefore arguably a benefit given the applied aims of the research. Data collected in this timeframe could be triangulated and justified and answers to the empirical research questions were found. However with more time, more could have been done, either in terms of accessing other field sites as originally envisaged or attempting more data collection in the two field sites that were used (whilst recognising the potential for diminishing returns on this). As noted above a number of areas of interest were not included in the write up. Not all data could be substantiated through triangulation and so was omitted. There was also not time to follow up some leads emerging in the data. Additional time to capture and analyse data in the field may have mitigated this loss.

Using snowball sampling and conducting the research in summer also channelled data collection, it captured the thoughts, perspectives and opinions of certain groups (Laws, et al.,

2003, Tracy, 2013). Snowballing, and having a number of snowballing threads running through data collection, helped to *avoid* elite and user bias in the data (Kumar, 2008). Yet the research was purposive, in name and practice. It was knowingly targeted from the field sites used to the households contained therein. This had ontological and epistemological implications.

The inability to develop a robust sampling frame, indeed even establish the proportion of the villages' populations involved in the research, meant an inability to explore relationships between variables in a statistically significant manner. Rather, as the methodology evolved, what became the central tenet of investigation was to reflect upon the lived experiences, perspectives, opinions and beliefs of the respondents, situated in context. Whilst this does not alter the validity of the findings, it does alter the types of conclusions that could be drawn. The data and findings of this thesis were not used to make inferences to the wider population. Rather the research was an attempt to make sense of the world of respondents; a world viewed from their perspective, with all the complexities and idiosyncrasies that this may involve. As Roche (1999, p. 23) notes, impact assessments are 'centrally about judgements of what change is considered 'significant' for whom and by whom; views which will often differ according to class, gender, age and other factors'.

3.6.3 Translation and Affiliation

Working through locals, both as translators and driver, brought hindrances and benefits. In a society where familial networks and kinship were highly regarded, their roles undoubtedly supported the acceptance of the research within the field sites. Moreover, as 'ethnographic informants' (Burja, 2006, p. 177) they were part of the research, explaining not just the specifics of mine action locally, but family connections and particularities of a village and so on. Yet the research officers were also intermediaries in the collection of data. Translation was subject to their own interests and capacities, with the potential to lead to well recognised distortions in the research data (Howard, 1997, Robson, 1997, Burja, 2006).

There were also implications of the research's affiliation with MAG. As detailed by Mercer (2006), working with an NGO provided the field operational structure behind the research. I believe access to the field sites would not have been possible without affiliation. Talking to those who occupied land cleared by MAG provided entry points into the community from which contacts could be snowballed. The MAG branding we were required to wear and have

visible, provided security in identifying us as part of a known organisation headquartered within southern Lebanon. In terms of everyday practice, belonging to the organisation also meant we had to comply with established security protocols and frameworks, which in turn led to a safer working environment.

Being affiliated to MAG also helped prevent blunders that could have undermined the acceptance of the research. As Sluka (1995, p. 287) notes, when working in insecure environments 'you must learn to walk softly'. There was the need to be attuned to sensitivities in questioning (ibid). I learned even prior to field pilot testing, that questions I would regard as innocuous could be read with an unintended sub-text. Affiliation then helped localise and sensitise language and phrasing, identify potential pitfalls, and gain insights into the predominant fears of communities which they also represented.

There were trade-offs with affiliation however. As noted by Mercer (2006), shortlisted field sites related to partner activities. As advised by Willis (2006), at times respondents focussed upon the positive outcomes of the partner's activities. It therefore had to be considered whether this was because it was true or what respondents thought we wanted to hear. There was also the issue that MAG's work was so well known. Misunderstandings occurred that on reflection related to our identification with MAG. MAG cleared land of landmines and cluster bombs, so why ask about livelihoods and wider household data? MAG did not require this information to do their work, respondents said to us. Such understandings might not have been present if the research was independent, or came under affiliation with a research institution. In this sense affiliation was double edged. However in this instance any drawbacks were far outweighed by the ability to work at all, and to be able to work more safely.

3.6.4 Insecurity and Fear

Fear and insecurity may manifest themselves in a number of ways in the field. In working on civil violence in Haiti, Kovats-Bernats (2002, p. 213) notes that to work in 'dangerous fields implies an ability to negotiate daily a spectrum of social encounters with a diverse host of individuals, some of whom may be helpful, some of whom may be dangerous, and some of whom may be simply indifferent'. Sluka (1995) notes when researching in situations of conflict or political instability, there is need to recognise potential outcomes of assault, arrest, interrogation or worse, or being defined as a sympathiser of the opposing force. Romano (2006, p. 440) cautions that in the conflict zones of the Middle East, 'people die for their

beliefs and associations in these regions and emotions run high'. These examples help illustrate the ways in which fear and security affect both researched and researcher. They appear as manifestations of wider insecurities. Moreover, whether the threat is real or imagined is immaterial to the potential effects on participation, data and the research decisions made.

In my experience, my own fears and issues of security, along with those of respondents and wider stakeholders shaped and affected the research. Some issues could be anticipated in advance, some were responded to as the research progressed. There were practical considerations. Registering with the UK Embassy in Beirut was a sensible, straight forward measure to take. However other practicalities impacted on data collection and therefore had to be more carefully weighed up and acted upon. For example, the chronological set up to the interview schedule supported its acceptance, but meant if research fatigue was to set in, it affected the same questions. Consequently overall fewer data were collected on clearance than on contamination. One visit per household made corroborating data more problematic. Accepting the need to leave the field by dark systematically restricted our sample. In this instance there was a work around in flexible working and working weekends if needed to suit the needs of respondents. The effects of other decisions however were not so easily remedied. In line with the guidance of Romano (2006) actions were taken to safeguard data. However holding information mentally or via odd written words was not a substitute for being able to write full descriptions or ideas as they occurred in the field. Here the potential effect on the data needed to be accepted as a trade-off for being able to work more securely. Further, not all leads generated by the snowballing were followed up. As with Jamieson's (2000) work on young people and crime in Scotland, discretion was exercised. Follow up did not occur when further discussion revealed issues that I, or the team, felt might adversely affect the respondent, ourselves, or the research. On one occasion this pertained to bereavement, however predominantly it was due to follow up being in an insecure location, in a location we did not have permission to travel to, or where there were security concerns with the household. On three occasions interviews were also quickly drawn to a close on security grounds. When acquiring informed consent, it was always stressed to respondents they could stop the interview at any time (when interviews were stopped they are noted as partial in Table 3-3). Such instances highlight the importance of power and control in the research encounter.

3.6.5 Power and Control

Within geography issues of power and control in research appear in various debates. Feminist, social and cultural geographies led the way in examining the ways in which power shapes knowledge production (Rose, 1997, Mullings, 1999). Post-colonialism highlighted the legacy of inherent unequal power relationships that exist between researchers and researched in the Global South, alongside the danger of their reproduction through data mining and extraction of knowledge to the benefit of overseas individuals and institutions. Within development geography, critics of participatory approaches argue that respondent power and control is not given due consideration by its advocates, nor the importance of agency and performance (Cleaver, 2001). Consensus building may channel performance into conventional social understandings and practices. Following Foucault's writings on the ubiquity of power, PLA may mask 'more insidious forms of power, which operate not solely through direct forms of repression but often through less visible strategies of normalisation' (Kothari, 2001, p. 144). Power, in short, permeates and infiltrates the research encounter. This is from start to end. From the negotiation of access and entry to the production, interpretation, and then reproduction of knowledge that results from it.

My experiences do not contradict these findings. However they do challenge assumptions of a singular, one-way dynamic to power and control in the field that are, at times, incorporated within guidelines and research manuals. I found my own power ebbed and flowed in the research process. This was both within the field and beyond. At times I occupied the position typified in the post-colonial literature: a well-educated, comparatively wealthy researcher, asking lots of questions of a poor household primarily for my own benefit and those I was working on behalf of. At other times I was asking questions of those much more powerful and wealthy than I, still within the same communities, in elite interviewing. Here the 'relations of power encountered are significantly different from those encountered with other non-elite groups' (Mullings, 1999, p. 338). Moreover, the workings of power were not just between myself and respondents but were played out between different community sub-groups. This by extension then changed their relationship with me. Others could enter into interviews at will. I was not in a position to deny entry into someone else's home or workplace, moreover to put forward objections to their presence could have been misinterpreted that we, or the respondent, had something to hide. Instead the interview was halted whilst their questions were answered and then when these had finished it was brought to an end. In this sense I found that power did not just infiltrate the direct research encounter. It was multi-

directional, incorporating the processes and actors that sit around, below and above that determine the very existence of the encounter, or not.

In a piece of development research on drug traffickers and militia in Brazil, Wheeler (2009, p. 100) states that: 'Carrying out research in areas controlled by armed actors requires an ongoing process of negotiation and control'. More pointedly and insightful perhaps though, through the actions of doing so: 'external research engages in negotiations which mirror the compromises that residents make on a daily basis' (ibid. p.100). Such experience can be harnessed to benefit the research, adding new layers of understanding and insight into the research setting and the lives of those within (Lee-Treweek & Linkogle, 2000). I do not presume to fully comprehend the experiences, emotions and perspectives of respondents. I do not and did not 'walk in their shoes'. Yet, I did glimpse how issues of power and insecurity can shape circumstance and drive behaviour, my own included.

If I accept that my power ebbed and flowed within the research, then an assumption of control can be misleading. Box 3-3 below outlines the ethical guidance issued by the Developing Areas Research Group (DARG) on attending to risk in the field.

Box 3-3 Controlling Risk in Research – DARG Guidance

'Researchers must be fully aware of the actual and potential, present and future, risks and dangers (e.g. political, social, cultural, human rights, power) that their subjects, collaborators, assistants and others may face as a result of their research (and other) activities, and associated with the data that their research yields. It is incumbent on researchers to make themselves fully aware of the risks and dangers that their research may pose to local communities and individuals, and to take appropriate action to eliminate such risks. Their conduct at all times should be cognisant of these risks and dangers. There is a need at all times to act responsibly, and to expect to be accountable for one's actions. Under no circumstances should our respondents, subjects, assistants, partners, etc. be put at risk in any way as a result of our activities'.

(DARG, 2003, p. 2)

Inherent in the text is the ability of the researcher to foresee, account for and mitigate dangers and risk that may arise for those involved with the research. Implicitly this guidance signals control and I attempted to implement it. Yet, I reflected with concern when in the field, that I was not always in control. This could be despite gaining the necessary permissions. In doing so I failed in my duty to protect potential respondents and the research officers working with me. Worse, in situations where security was an issue, it was they, the research officers, who protected me, negotiating and extracting us from a situation where as a non-Arabic speaker I was unable to participate in without their translation.

I found however I was not alone in experiencing these feelings. In Clark's (2006, p. 418) survey of political science researchers in the Middle East, 13% stipulated lack of safety, including attacks on colleagues and friends, 'as among the greatest difficulties in conducting research'. Sluka (1995) notes an occasion where decision making on a security matter was handed over to the member of the Irish People's Liberation Organisation, the organisation he was researching. Likewise, Kovats-Bernat (2002, p. 214) highlights a shift in power dynamic in the field whereby 'the anthropologist is more likely to rely on local knowledge and the protection extended by interlocutors or other locals', rather than the other way around. With time I came to realise the conceit in presuming I ever would have full control. In Chapter 1 the influence of context on the impact of aid interventions was highlighted. Similar principles apply here to the practice of research.

3.6.6 Ethical Dilemmas and Discomforts

Mayoux (2006, p. 123) argues that: 'Ethical concerns must always be an integral and planned element in research design rather than assumed outcomes'. Accepting such advice, the ethical concerns I travelled to the field with included: the costs of participation outweighing the benefits; participants increasing their own vulnerability by making their opinions known in public fora; potentially exacerbating conflicts and tensions between and within communities; working with vulnerable and possibly traumatised populations; and recalling difficult personal events (Roche, 1999, Mayoux, 2006).

The degree to which they were borne out varied. Some proved founded. The benefits of the research would not be felt in most cases by the respondents themselves, but rather, hopefully, by other communities that continue to have uncleared contamination, as well as

by the mine action sector more broadly, and me. Other concerns were misplaced or transformed by local considerations. There were risks of being involved in the research: risks that could not be eliminated. Yet they could be minimised. I also found rather than difficulty in recalling traumatic scenarios, that 'silence on atrocities is not common across societies' (Fujii, 2010, p. 238). Discussion on the difficulties of war was readily offered, whether asked for or not. Feelings as the wronged party meant that it was not a silent subject. With time, I realised different reasoning lay behind conveying at times, personal, difficult information that appeared important to respondents to express. There were instances where information was given, on the basis we needed to know to understand their thinking and actions. At others it was delivered with anger, heightened emotion and annoyance so that we would carry this message to an outside world. Both issues raised ethical concerns: how to deal with such sensitive information in a write up; and being honest about the potential reach and impact of the research. Yet these were not the ethical concerns originally envisioned.

In a final set of considerations, some ethical issues were unplanned for and responded to as encountered. These primarily related to the realities of what may be involved in 'getting fieldwork done'. Some could be categorised as dilemmas, others discomforts where I had limited agency to modify. My response to strongly held views was an instance of such concerns. Here practical matters took precedence over principled action. As Figenschou (2010, p. 975) comments on researching Al Jeezera: 'In my interviews I ended up systematically ignoring (and thus indirectly tolerating) uncomfortable comments...it was more important to conduct the interviews I had worked so hard to arrange, than try to stand up for myself and explain my views'. That I am not alone in encountering this dilemma in completing data collection and treating such instances as a means to an end is a comfort in itself. Yet it does not fully erode the feeling that I was at times insincere.

Finally some ethical considerations are still ongoing. Earlier I stated that power permeates the research encounter from start to end, from the negotiation of access and entry to the production, interpretation, and then reproduction of the knowledge that results from it. Consequently, although time in the field has ended, the ethical dilemmas continue. Candour and openness on the research process, brings with it vulnerability on a number of fronts: for respondents, MAG and myself. Further, I recognise that currently I possess 'significant authority over the interpretation of information I was given, the quotations used to support my claims, and ultimately the final text presented to the public' (Mullings, 1999, p. 347). Yet with dissemination this is once again relinquished. Interest in accessing the research has

already been expressed by stakeholders within Lebanon. This raises the, albeit slight, possibility that my writings may be re-interpreted and reproduced. The implications of reproduction in a politically tense environment are an ongoing ethical concern. Ethical considerations therefore remain a 'gray zone' of regularly arising discomforts (Clark, 2006, p. 422).

3.6.7 Positionality

Positionality permeates the research on a number of levels. This starts with the very focus of enquiry. As detailed in Chapter 1, before beginning this research, I was part of the mine action sector. I worked for MAG in a UK based head office role. Despite spending time in field programmes, my responsibilities were focussed towards working with institutional donors, namely governmental and multi-lateral institutions such as the UK Government, European Commission and UN bodies. Consequently, at the onset of the research my initial understandings, of contamination, clearance, impact and livelihood were almost sanitised. Shaped by my interactions with these agencies, it was a broad stroke, cleansed and an uncluttered version of everyday living. I carried these understandings with me to the field. It was only once there was I fully aware of their simplicity and how my time within mine action had shaped and coloured these initial views. As detailed in the discussion on field realities above, this led to conceptual, operational and planning challenges. As these were worked through, so were my initial understandings of the issues at hand re-configured.
Who I am, how I react and what I represent also influenced the research. This has already been touched upon above. As an educated, white, researcher from the Global North I sat in a privileged position in comparison to some respondents, with the implications of power and vulnerability that this entails. Being affiliated to MAG may have influenced how respondents answered to questions of clearance. Further and most pointedly perhaps, in being the person driving the research, how I reacted and responded to insecurity was a significant determinant of what data was gathered and where. Whilst there were boundaries to the research that were externally imposed, within these parameters, how I perceived, felt about and responded to risk, what I felt comfortable with, shaped and directed the research protocol. This positionality is therefore reflected in what data was collected that is subsequently the focus of discussion.

My position as a female researcher also influenced the data collected in the field sites. Whilst familiar with the mine action sector, I was an outsider to the communities involved in the

research. Further, I was one that could only communicate with the help of others. I had to try and build rapport quickly with respondents and interviews regularly started with informal chats whereby respondents would ask questions of me and my background. Female respondents were inquisitive, interested in my recent marriage, which often provided an entry point into discussion. They wanted to know when children would follow and how I was able to work and live in Lebanon whilst my husband remained in the UK. Being keen to acquire female perspectives on contamination and clearance, I regarded my gender as an advantage in these encounters. In a conservative society there was a degree of openness to these exchanges that might not have been possible if I had been male. This is not to say that interviews with men were less open, but at times they could be more formal. Whereas women would touch my fair hair and my skin, this never happened with male respondents. Perhaps as a consequence of this, some of the most interesting testimony I collected was from female respondents.

During the interviews, it was also possible that my nationality was brought into play. More so than my gender, I felt that my British nationality underscored my externality to the communities I was researching. I was asked, not infrequently, what I personally had done to try and prevent the actions of the UK government: from the UK's involvement in the Iraq war, to allowing the use of cluster munitions. Contamination and clearance sat at a humanitarian – military – political nexus, and I was connected to it. This was a difficult path to negotiate. At times for parts of the interview, or before or after it, the tables could be turned and I could be the one being questioned. Keen obviously to collect data I obliged. There was the need at times justify my actions. The fact I had represented MAG in Dublin for the signing of the UN Convention on Cluster Munitions often helped appease and diffuse situations. I could garner degrees of acceptance. However, the emergence of political issues within the data perhaps links back to this backdrop, or indeed perhaps I was just more attuned to it because of the position I was in.

In commenting upon reflexivity and power within feminist geography, Rose (1997, p. 314) notes that: 'Researchers are entangled in the research process in all sorts of ways, and the demand to situate knowledge is a demand to recognize that messiness'. As an individual involved with mine action and now conducting this research on mine action, 'entangled' is an appropriate word to use. The task to fully comprehend this messiness she argues however is not necessarily an achievable one. This was my experience. Some points I could consider and be reflexive upon: for example how my knowledge is situated and partial; and how my

culture and education infiltrate and colour my interpretations. On other issues there was ambiguity: I was an 'outsider' to the communities of Arrefir and Sahnen, but 'insider' to mine action (Mullings, 1999). Moreover, the implications of position that were ascribed to me, such as what my nationality represented to respondents, I could not fully know.

The aim of this final section to the chapter has been to reflect upon some of the substantive issues associated with the planning and practice of researching the impact of contamination and clearance on livelihood in the field sites. What is evident in the above is that 'how a research project is understood is not entirely a consequence of the relation between researcher and researched' (Rose, 1997, p. 319). In this instance the context to data collection, and its associated issues of security and fear, power and control and research ethics were also a core element to this dynamic. Reflecting upon the act of 'doing' development research I would argue can therefore be as informative as the data generated.

3.7 Concluding Comments

As Rose (1997, p. 319) sums up:

> 'We cannot know everything, nor can we survey power as if we can fully understand control or redistribute it. What we may be able to do is something more modest but, perhaps, rather more radical: to inscribe into our research practices some absences and fallibilities while recognizing that the significance of this does not rest entirely in our own hands'.

This has been the ethos underpinning this chapter. The chapter has set forth the narrative evolution of the research protocol, particularly whilst in the field, to arrive at a methodology tailored to circumstance and context. The disclosure of this journey has been deliberate. To solely present the finished, glossy, end product without the 'absences and fallibilities' in Rose's language that directed and shaped the research practice, would have felt not only disingenuous but a missed opportunity. Disingenuous, as the research process was not a neat and tidy affair but one of adaptability, resilience and acknowledgement of boundaries. A missed opportunity, as such circumstances generate additional potential, in their own right, for empirical and applied research.

As evidenced, the research had to change and adapt to some quite profound challenges in the field. This meant, in part, that initial ideas could not be carried out. A re-evaluation of the methodological objectives and questions the research sought to answer, along with the research protocol and methods followed. Bringing discussion back to the research's objective and questions, it can be concluded that even in difficult circumstance it is possible to generate valuable data. To this end, I believe the research's affiliation with MAG, using snowballing that started with village leaders, and research officers local to the vicinity (if not the actual villages) helped gain access and acceptance of the research. Further, the approach and principles we adopted of working quickly and lightly; adhering to boundaries; recognising respondents' vulnerability; taking opportunities for data generation; and assigning multiple functions to available resources helped us not only to collect a range of data, but sustain the ability to work with the communities.

Household semi-structured interviewing that captured qualitative, quantitative and observational data evolved as the key method to acquire perspectives of the impact of contamination and clearance on livelihood. This was supported and triangulated with other primary and secondary data sources. Key design elements within the schedule to garner acceptance included: framing livelihood within the chronological processes of conflict, contamination and clearance; including community profiling issues (again tied to conflict) at the beginning; including prompts; and positioning selected household data at the end. The mix of questioning types aimed to enable a range of data to be captured in one visit. Notwithstanding the field realities encountered, we found a way to work within the field sites. Yet, these field realities did have implications for the data. There were limitations and compromises placed on the data in terms of data collection and of analysis. What the data represent, how they are knowingly purposive and situated requires acknowledgement.
In sum therefore, relocating the research to southern Lebanon, from Angola and Laos, provided broader research opportunities than originally envisioned. In working with the context, rather than against it, research questions evolved to those more attuned with their situation. Intuitively, perhaps, they focussed upon issues pertinent to their locale, irrespective of former assumptions or plans. Furthermore, reflection on the research process and experience provided a window into field realities that might be repeated in other fora and in other times. The issues associated with 'doing' development research are thus ascribed much needed attention. This is, arguably, all the more so in more unorthodox 'development' research locations such as the Middle East. More open disclosure of field realities, in dealing with issues such as fear, insecurity, power, control, positionality and the range of ethical

dilemmas and discomforts that can be encountered, can only help in preparing for future research encounters and time in the field.

CHAPTER 4

LEBANON: CONTEXT AND BACKDROP TO THE RESEARCH

4.1 Introduction

Present day livelihoods in Lebanon are intimately tied to the past. Similarly, through its clearance of contamination, the mine action sector and its operators are intimately situated within, and linked into, the past. The clearance activities of such actors are shaped by the nature of previous hostilities and political and military strategies. The impact that their clearance has is also tied to the wider structures and moulding forces that have governed, and continue to govern, the post conflict landscape.

Primarily it is the aim of this chapter to situate and contextualise the research. It will outline the factors that have shaped livelihoods and continue to bear influence on lives and everyday living in Lebanon today. It will also embed contamination and clearance more broadly within Lebanon's conflict and post-conflict landscape. Therefore after setting out some of the key socio-economic characteristics of Lebanon, the chapter will look to expand upon and analyse the context to the research. To do so requires that the past be drawn into the understanding of the present. The chapter will therefore trace the political and military developments within Lebanon that ultimately led to the emergence of conflict and violence, and in turn contamination. Using a framework of the six livelihood capitals, the chapter will then illustrate the ways in which this history continues to influence Lebanon's present, by analysing the impact conflict and violence had on Lebanon, its livelihoods, as well as the nature of the post-conflict landscape and its actors. It will be argued that livelihoods in Lebanon continue to be played out within an environment of political uncertainty, and insecurity. This is particularly so in southern Lebanon where the field research was undertaken. Mine action and the contamination it seeks to clear is a constituent part of

this landscape, as will be detailed. Finally the elements of Lebanon's conflict landscape will be traced through to the characteristics and nature of the field sites themselves. It is the intention of this chapter then to set forth the backdrop to the research. With this in place, the transformations in livelihoods brought about by contamination and clearance, that will follow in the empirical chapters, can be embedded within their wider context and circumstance.

4.2 Context and Circumstance: The Backdrop to Livelihoods

As detailed in Chapter 1, Lebanon is not a poor country. The World Bank classifies it as 'upper middle income' (World Bank, 2012). In 2011 life expectancy stood at 80 years, and 100% of the population had access to an improved water source. In 2012, Gross Domestic Product (GDP) stood at US $42.95 billion, whilst Gross National Income (GNI) per capita was US $9,190 (ibid.) However, this is not to say that Lebanon does not contain vulnerable groups. As noted by UNDP et al (2008a), 28.5%, or approximately 1 million of Lebanon's population were classified as poor[15] in 2004/5. 300,000 or 8% were classified as extremely poor, earning US$ 2.40 or less per day and unable to meet basic food and non-food needs[16]. In Lebanon poverty and vulnerability are noted to manifest in underemployment, low wage rates, poor working conditions and lack of insurance in both formal and informal sectors (UNDP et al; 2008a). Further, there are spatial and social patterns to poverty and vulnerability in Lebanon, as discussed below.

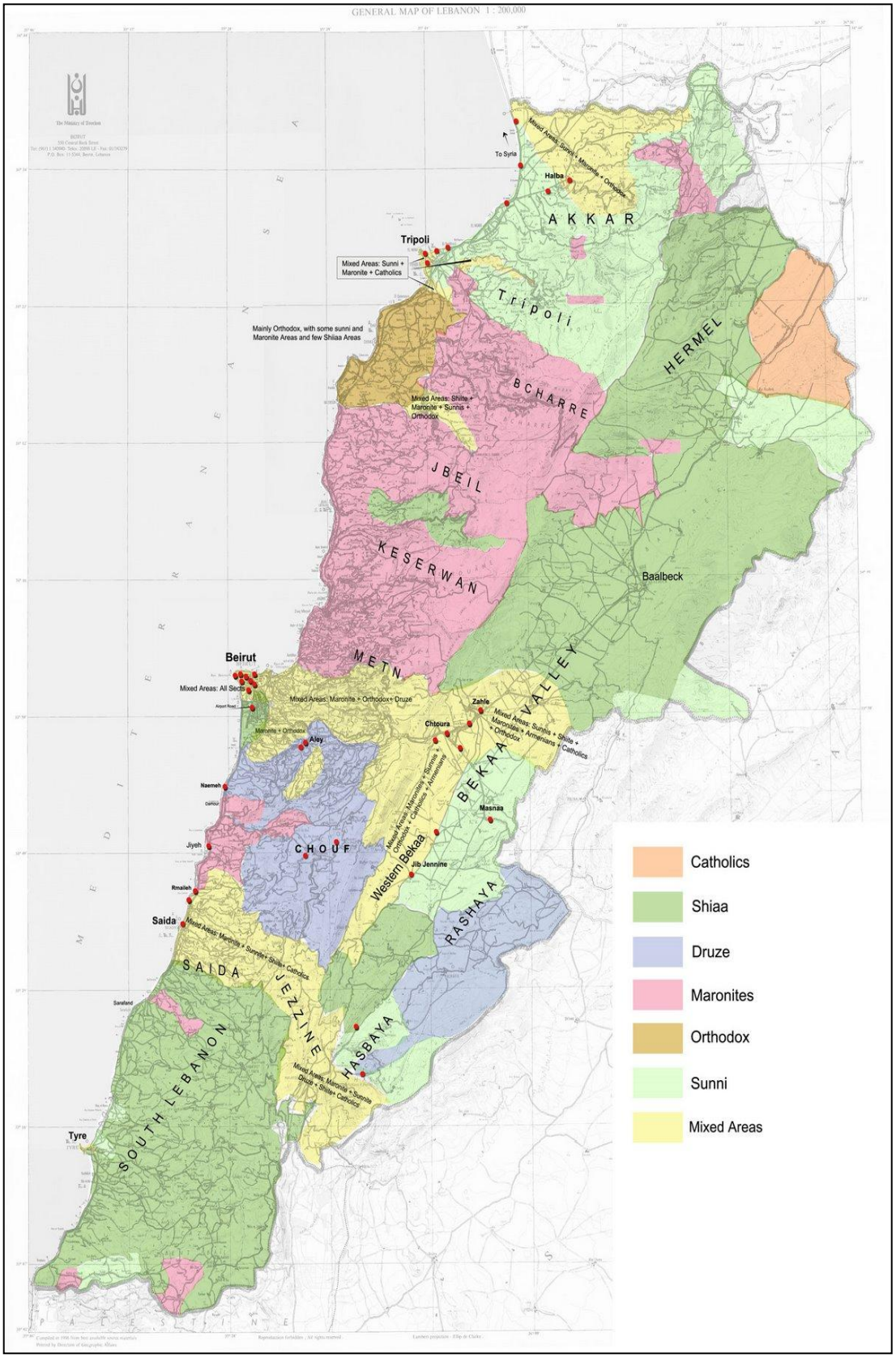
4.2.1 Spatial and Social Patterns to Poverty

Households more likely to be classified as poor include those outside of the Governorates of Beirut and Mount Lebanon (ibid). As can be seen in Figure 4-1, within Lebanon there was a strong association between religious denomination and geographic location. Consequently this fact points to social divisions in economic vulnerability between social groups and a

[15] In 2008 UNDP and its partners published data on household characteristics and living conditions collected from 13,003 households in Lebanon, alongside expenditure data collected from a sub sample of 7,431 households in the 2004/5 National Survey. Within the report the 'upper' poverty line, at the 2008 exchange rate, translates to about US $4 per capita per day (UNDP et al 2008a).

[16] Within the same report, the dollar equivalent of the lower poverty line when converted at the 2008 exchange rate is US $2.40 per capita per day (ibid).

Figure 4-1 Map of Lebanon's Religious Denominations



(European Country of Origin Information Network, 2010)

concentration in wealth both socially and geographically: The richest 20% in Lebanese society account for 43% of goods and service consumption; the bottom 20% account for only 7%. Indeed, in 2004/5, the principally Sunni North Governorate housed 46% of the extremely poor (ibid).

Other factors found to be associated with household poverty included: households with illiterate heads; households with widowed heads; households of agriculture workers; households with working youth; and households with over three children (UNDP et al 2008a). Indeed agriculture, construction and the trade sectors were associated with the highest poverty measures. Agriculture, along with construction, were some of the key sectors of employment within the caza of Nabatieh and Tyre, where the field research was based, as can be seen below in Table 4-1. Nationally 20% of the poor were engaged in agricultural activities. In Nabatieh Governorate over 33% of the extremely poor were engaged in agriculture (UNDP et al 2008b).

Overall, it is noteworthy that although unemployment stands at the low level of 5.6%, only approximately one quarter of the population in the southern caza covered by the survey were in employment in line with the national trend. The productive to unproductive ratio within households therefore appears small. Of those working, it can be seen within the Nabatieh, Tyre, Bent Jabal and Marjaayoun the agricultural sector provided more than twice the employment of the national average. Agriculture, along with services and trade and construction, were key sectors of employment locally.

To relay this discussion to the situation of the field sites: In sum, the populations of the governorates of Nabatieh and South Lebanon, and the caza of Nabatieh and Tyre more specifically[17], are relatively more exposed to vulnerability and poverty than other groups within the country. However, poverty rates within these areas are not the highest in Lebanon. These patterns relate to two sets of factors. Firstly, the locations of these populations away from Lebanon's central economic and political based around Beirut and its hinterlands. Secondly, the higher prevalence of agricultural and construction work within them. The fact that construction provided employment in caza of Nabatieh and Tyre at levels double the national average carries significance. It is indicative of post war reconstruction efforts. It is

[17] The location of the field sites.

also indicative of a property boom fuelled by émigrés and displaced families from southern Lebanon investing in summer homes or in family property in their original family village.

Table 4-1 Comparative Economic Activity Patterns Between the Cazas of Nabatieh, Tyre, Bent Jabal and Marjaayoun and National Averages

	Nabatieh, Tyre, Bent Jabal and Marjaayoun (%)	Lebanon (%)
Activity Patterns		
Under school age	4.1%	4.0%
Student	35.3%	30.9%
Working	26.3%	29.5%
Unemployed	5.6%	4.8%
Occupied with housework	22.5%	24.6%
Unable to work for health reasons	5.1%	4.4%
Retired	1.1%	1.8%
Economic Activity Sector of Working Population		
Agriculture	16.5%	7.2%
Industry	12.7%	13.8%
Construction	12.8%	5.6%
Trade	21.1%	22.6%
Telecommunications	4.4%	7.0%
Services	31.5%	41.6%
Financial Intermediation and Insurance	1.0%	2.1%
No response	0.0%	0.1%

Adapted from the UNDP et al (2008b, pp. 224, p. 257, p. 260)

villages. Further, it helps explain why in Shi'a dominated southern Lebanon poverty rates are above average but not as severe as elsewhere: An indication perhaps of the importance of mobility in southern livelihoods.

4.2.2 Livelihood Strategies and Outward and Inward Mobility

Mobility, and with it remittances, have both historic and current significance within southern Lebanon. Lebanon has established overseas diaspora communities. In 2010 it was estimated that 15.6% of Lebanon's 4.2 million population lived overseas: comprising 664,000 people (ESCWA, 2010, World Bank, 2011a). In 2007, the UNDP ranked Lebanon 39th out of 182 countries for emigration. The rate of outward movements stood at 12.9%, with the primary destination of migrants being North America (31.2%) (UNDP, 2009a). As of the end of 2009, the World Bank reported that remittances comprised 22.4% of Lebanon's GDP. This places Lebanon fifth out of the 162 states the World Bank reported against (World Bank, 2011b). Therefore given the rankings of emigration and remittance flows, returns per capita appear comparatively high. As will be discussed within Chapters 6 and 8, mobility and social networks hold prominence in the livelihoods of the Lebanese. Mobility supports livelihoods for individuals and families at both the points of origin and destination. For families in southern Lebanon 'family remittances and other such communal support compensate for weak formal safety net programs' (Government of Lebanon, 2006, p. 18).

However migratory movement in Lebanon is not all one way. Some 664,000 Lebanese émigrés may be overseas, but 758,200 immigrants have made Lebanon their home from both voluntary and forced movement. In 2010, over 17% of Lebanon's population was constituted by immigrants, 61% of whom were refugees from Iraq and the Occupied Palestinian Territories[18] (World Bank, 2011a). However, more recently due to the ongoing conflict across Lebanon's border in Syria, the numbers of refugees in Lebanon have swelled. In Chapter 1 it was noted that 800,000 Syrian refugees have sought shelter in Lebanon (UNHCR, 2013a). Estimates indicate that by the end of 2013, 1 million Syrian refugees could be in Lebanon (UNHCR, 2013b). This would comprise a quarter of Lebanon's total diminutive 4.25 million population (ESCWA, 2013, UNICEF, 2013). The presence of these groups not only indicates the insecurity of the region within which Lebanon is situated, but also the country's social heterogeneity, which brings with it certain tensions.

[18] Other key groups include domestic staff from south Asia and Syrian agricultural workers (World Bank 2010a).

4.2.3 Demographic Complexity and Exposure to Insecurity

Lebanon is a complex mix of religious and ethnic groups with differential levels of access to power, and conversely, degrees of marginalisation. In an area approximately equivalent to Cyprus seventeen recognised religious denominations (US Department of State, 2005) jockey for position to internal and external audiences. Religion is an inherent part of politics. Given Lebanon's political confessional system the country's three key political positions, namely President, Prime Minister and Speaker of the House are allocated to a Christian Maronite, a Sunni and a Shi'a respectively. This is an ongoing source of political instability. Mistrust and division is a recurring undercurrent and the fracturing of society along sectarian lines a ready response to provocation.

Vulnerability finds expression then not only in poverty but in insecurity. The 2009 Arab Human Development Report included a survey of human security in Kuwait, Lebanon, Morocco and the Occupied Palestinian Territories (UNDP, 2009b). Its analysis is notable in the Lebanese case. Firstly, of the 19 threats to human security for which data were available, all received high percentage responses from Lebanese respondents. Perceived threats included a broad spectrum of concerns from solidarity between community groups to environmental degradation and corruption. Secondly the ranking of perceived threats by Lebanese individuals is notable. The first three relate to protection, security and poverty namely: 1) assaults on persons and private property (89.1%); 2) hunger (88.7%); and 3) government failure to protect citizens (87.0%) (UNDP, 2009b). Indeed, of threats ranked one to eight[19], four relate to issues of protection and governance and four to poverty or its manifestations and causes. This dynamic encapsulates the backdrop to the research. Livelihoods in Lebanon continue to be played out within an environment of internal sectarian uncertainty, political tension and external insecurity. Gains against poverty and economic growth indicators have been made, as will be seen, but post 1982 growth has followed the ebbs and flows of instability. Gains can be quickly reversed from national to individual levels. Whilst household security and livelihood opportunities exist, and are utilised in this upper middle income country, livelihoods also remain extremely vulnerable to external shock and violence. This is no more so than in the southern Governorates of Nabatieh and South Lebanon, the location

[19] The ranking and perecentage responses were as follows: 1) assaults on persons and private property (89.1%); 2) hunger (88.7%); 3) government failure to protect citizens (87.0%) 4) unemployment (86.5%); 5) poverty (86.4%) 6) a spread of corruption (86.3%); 7) epidemics and communicable diseases (86.2%); and 8) occupation and foreign influence (85.1%) (UNDP, 2009b).

of the field sites, due to its legacy of conflict, contest and occupation, as shall now be detailed.

4.3 Lebanon - A History of Conquests and Contestation

The discussion to follow is chronological. It charts key developments within Lebanon's history of conflict, focussing upon political and military developments from 1964 – 2010. The analysis does not aim to replicate the full and detailed accounts of the numerable twists and turns to its conflicts that can be found within the literature (see for example Khazen, 2000, Khalaf, 2002, Fisk, 2002, Traboulsi, 2007). Rather, attention is particularly directed to the historical context of conflict within southern Lebanon. The aim is to contextualise the conflict and violence that has been experienced in the field sites within their wider geo-political and historical frame. In this sense, discussion foregrounds analysis to follow later in the chapter that considers the effects of conflict and contamination on lives and livelihoods within Lebanon more broadly and in the field sites specifically.

1964 - 1975 Escalating Tension and Deepening Divides

Analysis starts with developments with the Palestinian Liberation Organisations (PLO). Ismael and Ismael (2011, p. 263) note that: 'The League of Arab States established the PLO in 1964 to organize the Palestinian people...over time it became the sole representative of the Palestinian people as the armed factions, particularly Yasser Arafat's Fatah group, gained control over it'. Developments within the PLO, and the resettlement of Palestinian refugees outside of Israel, had wider regional implications. Comprising an organised and armed resistance movement based outside of Israel's border, PLO's operations were undertaken against Israel from neighbouring states and were retaliated against. In 1970, when Jordan expelled the PLO, their administrative and operational bases became headquartered within Lebanon (ibid.).

In 1972 conflict between Israel and the PLO acting out of southern Lebanon waged. Israeli retaliation this time however came in the form of its first extensive invasion into southern Lebanon, leading to the occupation of southern Lebanese villages (Peretz, 1988). The actions of Israel fuelled hostility between the Palestinians and the Lebanese, and also between different sections of Lebanese society that variously supported the Palestinian cause. Internal Lebanese support for the Palestinian *Fedayeen* linked into perceived grievances between

Lebanon's different confessional groups and a deeper rooted desire for political change. The OECD (2005, p. 2) notes the susceptibility of some middle income countries to 'violent upheaval': 'The risk of conflict is highest where there is real or perceived oppression of groups and institutional mechanisms are unable to manage grievances peacefully'. In Lebanon such issues were bountiful. Lebanon's confessionally based political system, constitutionally enshrined differential access to political power. Political nepotism and corruption, along with regional and confessional social inequalities fuelled internal instability along sectarian lines. Moreover, sectarian groups were armed. There was an armed Palestinian presence. Since 1970, there was also the arming of rightist groups that resisted the Palestinian presence (Al Jeezera , 2001). There were therefore both the grievances and means to fuel violence and conflict.

1975 – 1976 Civil Implosion and Syrian Predominance

From February 1975 protests, shootings and the deliberate targeting of civilians along confessional lines signalled the start of systematic sectarian violence, leading to the resignation of the government and external political intervention by neighbouring Syria. 1976 saw the continuation of the violence, accompanied by increasing external political and military intervention within Lebanon's conflict (Al Jeezera , 2001). Syria invaded May 31 1976 (Ismael & Ismael, 2011). This move was reported to have been driven by the wider regional concerns, namely preventing the ability of the Christian Right to enter into allegiance with Israel (Al Jeezera , 2001). In southern Lebanon, collaboration between the Christian Right and Israel was being actively strengthened, due to the joint concern over the establishment of the Palestinian presence in the region (ibid.). This helps explain the presence of Palestinian, Israeli and the Southern Lebanese Army (SLA) troops reported in Arrefir. The SLA being a militia group of the Christian Right.

During this period international intervention on Lebanese territory gained ground. This was as direct protagonists in the violence and as mediators and as peace keepers. Khazen (2000) points to the fact that after 1976, for more than 12 months, no military confrontations took place. To help explain this he looks to wider regional developments, despite the arrival of the Arab Security Forces from the Arab League, the US discerned that Lebanon's civil conflict needed controlling. To this end dialogue was started between Syria and Israel over the situation in Lebanon. The authority of the Lebanese Government in determining its own

affairs had been superseded. This pattern is repeated throughout Lebanon's history of conflict.

1977 – 1982 Unrest and Shi'a Mobilisation in the South

As conflict settled in Beirut, hostilities flared in southern Lebanon between the Palestinians and the Lebanese (Christian) Right, allied in part with Israel, and the situation of the predominantly Shi'a Muslims in southern Lebanon worsened. Further, Israel, in its 'Litani Project', invaded in March 1978. Aiming to drive out the PLO from its border area, it sought to create a security zone across Lebanon's southern border (Beydoun, 1992). Yet the invasion pushed northwards to the Litani River occupying 10% of Lebanese territory (ibid.). This then covered the majority of the Lebanese Governorates of South Lebanon and Nabatieh, and led to the occupation of Arrefir and the associated contamination it has from 1978.

Israel's invasion of southern Lebanon led to UN Security Council Resolution 425, demanding the immediate withdrawal of Israeli forces and the arrival of the UN's Interim Force in Lebanon (UNIFIL), under Resolution 426 (Beydoun, 1992). The arrival of UNIFIL troops in Lebanon formed a barrier between the PLO and Israel. UNIFIL itself became a target of Palestinian aggression as their access to occupied Palestine diminished (Al Jeezera , 2001). Israel withdrew but not fully and would not do so for decades hence. Where Israel did withdraw, land it had occupied was handed to the Lebanese Christian militia of the SLA, its ally (Beydoun, 1992). This helps explain the presence of the IDF/SLA within Arrefir until 2000.

By the end of the 1970s, Lebanon comprised a mosaic of militarily controlled zones, held by Syria, Israel or Palestinian forces, or a myriad of militia groups associated, temporarily, with them (Al Jeezera , 2001). It is against this background of occupation and the military activity of others that the Amal Movement, a Shi'a resistance group, had also started to gain influence. Later, in 1983 Shi'a resistance was strengthened by the arrival of Islamic Jihad, a satellite of Hizbollah, into the conflict.

1982 - 1988 Israel's Route to Beirut and Hizbollah Resistance

By the turn of the 1980s, Israel had become aware than it in order to defeat the PLO a land battle would be necessary. Following the Litani Project in 1978, Israel launched 'Peace for Galilee' on 4 June 1982, comprising air raids on Palestinian targets in West Beirut and

southern Lebanon. This was followed by land invasion across Lebanon's southern border, irrespective of UNIFIL presence (Beydoun, 1992). Roughly 4,000 tanks and 90,000 troops swept north to Beirut (Al Jeezera , 2001). Beirut was embattled. Families from southern Lebanon, including some from the field sites that had fled north to escape conflict returned to their home villages, as territory already under occupation was perceived to be safer (see also Beydoun, 1992). Syria's Assad signed a ceasefire 5 days after battling Israeli forces on June 10, and Arab pressure was applied to the Palestinians to withdraw. Israeli bombardment of cluster bombs and white phosphorous continued as the PLO continued to hold out (Al Jeezera , 2001). This explains the presence of contamination from 1982 in the field site of Arrefir. However, PLO submission to Israeli was inevitable. With Syria still weakened from Israeli attack, the US saw the opportunity to gain an Israeli – Lebanese settlement. A target deadline of late 1982 was set (Al Jeezera , 2001).

Over 35 sessions, starting in December 1982, the US succeeded in gaining consensus between Israel and Lebanon culminating in the May 17th Agreement. The articles of the agreement paved the way for an Israeli withdrawal; ended the state of war at which the two countries had formally been since 1943; created a security zone; and prohibited terrorist activities being enacted from within their own territories (Lebanese Forces, 2010). Its primary objective achieved, Israel partially withdrew in July 1983. Yet southern Lebanon remained under Israeli/SLA control. By 1985 Israel had withdrawn its forces to its security zone north of the Lebanese – Israeli border (Amnesty International 1996). Hizbollah continued to resist and withstand SLA imposed security. By the turn of 1988 the 13th year of conflict in Lebanon commenced. At this point 100,000 had been killed (Al Jeezera , 2001).

1989 – 1991 The Beginning of the End?

On September 30th 1989 fragile talks began in the city of Ta'if, Saudi Arabia. A month of discussion produced the Document of National Understanding: the Ta'if Agreement. Ta'if secured large scale international backing, including key players in the Middle East such as Saudi Arabia and Egypt as well as Syria and the UN Security Council. It was duly signed by Lebanese parliamentarians on 22nd October 1989 and it became constitutional law on 21st September 1991 (Traboulsi, 2007). Ta'if amended Lebanon's political constitution: 128 parliamentary seats were created allowing equality between Muslim and Christian representation; sectarian quotas within the civil service, judiciary, army and police were eradicated, with limited exceptions; and although the President would remain Christian by confession, executive powers were extremely cut, whilst those of the Sunni Prime Minister

were strengthened. Syria and Saudi Arabia were entrusted as regional patrons to the country. Syria's forces within the country were to remain for two years (see Traboulsi, 2007, p. 244 –p. 245). Disarmament of Lebanese militia, their demobilisation and reintegration followed with many absorbed into government security services, army and administration (Traboulsi, 2007).

The Post-Conflict Dawn - Reaffirming Old Orders

Streets in Beirut may have started to be demilitarised yet Israeli occupation in southern Lebanon continued, and importantly, whilst all other militia disarmed, Hizbollah did not in recognition of the need to resist the Israeli presence (Traboulsi, 2007). Moreover, Israeli and Syrian opposition continued to simmer with Israel regarding Syria 'as the most hostile of its bordering Arab opponents' (Harris, 1989, p. 80). A political solution in Lebanon that saw a dominant role and military presence being allocated to Syria therefore encouraged Israel to keep a hand in Lebanon to secure its northern border. Without an Israel withdrawal, Hizbollah resistance would continue and with it perpetual reinforcement of the Syrian-Israeli-Hizbollah circle (ibid.)[20].

Internally the political solution also remained a compromise and delicate. Ta'if tweaked the edges rather than bringing fundamental change. The sectarian system, the source of social contestation at the commencement of the war was, in essence, still in place but with modification. This was not the intended essence of Ta'if (Traboulsi, 2007, p. 244). Further, impunity for the hostilities, and the atrocities contained therein, also undermined political legitimacy (King-Irani, 2005). The General Amnesty Law was the first post-conflict act of the Lebanese parliament. This granted immunity for all war crimes and crimes against humanity committed between 1975 and 1991 (ibid.). Many of the protagonists in the war held positions within parliament, and they, or their family members in the tradition of Lebanese zu'ama[21], continue to do so. Hizbollah and Amal also acquired parliamentary seats in 1992.

'Historically, no victory was complete, no revolt was finished, and no order was orderly' (Khazen, 2000, p. 3). Lebanon remained a 'fragmented, diminutive state entrapped within a turbulent region' (Khalaf, 2002, p. 320). The planned Syrian withdrawal deadline passed. Indeed Syrian troops remained present in Lebanon until 2005. Violence and conflict

[20] As seen, the linkages between Iran-Syria-Hizbollah continue to play out in Syria's ongoing civil conflict.

[21] A tradition of patronage based historically around family, or clan, ties.

continued between Israel and Hizbollah; this included Israel's 1993 'Operation Accountability', also known as the Seven Day War, and the 1996 'Operations Grapes of Wrath'. The use of cluster bombs in these episodes of violence affected respondents in Sahnen. Israel continued to occupy the security zone in Lebanon, in contravention of 1978 UN Security Council Resolution 425, until 2000. Its occupation of southern Lebanese territory therefore lasted almost a quarter of a century. When it did withdraw moreover, it left landmines in its wake and retained a disputed area of land known as the Sheeba Farms: thus lending legitimacy to Hizbollah's resistance activities. Hostility between the IDF and Hizbollah continued up to (and beyond) the time of data collection that periodically erupt into violence. As detailed in the preceding chapter, the evacuation of the research team (and other MAG staff) in August 2010, during data collection, was in response to border clashes that killed five.

Against this backdrop, two IDF soldiers were captured and eight were killed by Hizbollah on 12 July 2006 (Gregory, 2006). Hizbollah's stated intent was to trade the soldiers for Israeli held Lebanese prisoners. The Israeli response was 'Operation Just Reward' that received US and French backing. Bush described Hizbollah as 'a puppet of Iran', placing Lebanon within the bounds of the US' war on terror (ibid. p. 48). As has been already detailed, across the course of the ensuing 34 days Hizbollah launched Katyusha rockets against northern Israel and the IDF deployed over 7,000 air attacks and 2,500 sea based bombardments against Lebanon, with 1,073 cluster strikes being confirmed by 2009 (ICBL, 2009, Gregory, 2006, HRW, 2006). Sahnen was one village in southern Lebanon hit by cluster strikes. This contamination of land in Sahnen formed the primary subject of research within this field site.

Over the course of 31 years of conflict between 1975 and 2006, Lebanon had witnessed the presence of Syrian, Israeli, Palestinian and Iranian forces, in addition to Arab, European and American peacekeeping troops and UNIFIL (Al Jeezera , 2001). These forces were accompanied by a myriad of different militia and resistance groups based along confessional lines. The above discussion draws links between these actors and the complex mosaic of conflict and violence that led to the presence of contamination in the field sites. Yet the legacies of conflict were not just related to contamination. As noted in Chapter 2, conflict has transformative effects from the macro-scale to the micro-scale (Collinson, et al., 2002). Discussion below therefore considers such effects and particularly how they link to issues of livelihood.

4.4 Lebanon's Post-Conflict Landscape

4.4.1 The Immediate and Enduring Effects of Conflict and Violence

Looking across both macro and micro levels, Goodhand notes that the impact of conflict is felt in terms of six capitals and their associated assets, namely: human capital (deaths, disablement, displacement); financial capital (investment levels, outflow of capital); political capital (with the decline of democratic processes and rise of military actors); social capital (disruption to social relations, decline in trust and reciprocity); natural capital (increased use of marginal land, breakdown of customary rights and rules of usage); and physical capital (destruction of infrastructure, landmine contamination) (Goodhand, 2001, p. 14). Given his use of capitals and its alignment to the livelihoods approach, the conceptual framework provided by Goodhand is a useful tool through which to frame an analysis of the situation in Lebanon after decades of conflict, foreign occupation and ongoing violence and insecurity. This is what will now follow. Building on the history of conflict provided above, the discussion will consider what can be understood from the literature as to the effects of conflict on Lebanon and her population. What are the transformative effects of conflict, as discussed in Chapter 2, in this empirical setting and how do they permeate the lives and livelihoods of those reached in the course of the research?

4.4.2 The Effects of Conflict and Violence on Human Capital

During the civil conflict 150,000 lost their lives (King-Irani, 2005). Between January and May 1990 alone, 1,500 were killed and 3,500 wounded (Traboulsi, 2007). During the 34 day war in 2006, Israeli civilian casualties numbered 43 dead and 1,500 injured, whilst 1,200 dead and 5,000 were injured in Lebanon: a third of which were estimated to be children (Gregory, 2006, UNDP, 2007).

Human capital however was not only affected by death and disablement; there were also issues of protection. Civil violence brought armed factions, organisations and gangs, with their own areas of control pillaging and imposing their own judicial systems, as well as 'seizure, occupations, forced taxation, forced sellings, smuggling and other forms of forced transfer' (Nasr, 1989, p. 45). The alleged SLA run, and Israeli backed, Khiam Detention Centre in South Lebanon, in which Amnesty International and Human Rights Watch reported instances of torture, cruelty and neglect, only closed its doors in 2000 with Israel's withdrawal

(HRW, 1999, Amnesty International, 2001). As of 2005, 17,000 'disappeared' were still missing (King-Irani, 2005). Contamination also brought issues of protection. From the period 1975 to June 2009, 3,857 casualties due to contamination were recorded; comprising 960 killed and 2,897 injured (ICBL, 2010).

Goodhand's third 'd', that of displacement, also arose (Goodhand, 2001). Between 1975 and 2001, 1 million Lebanese emigrated (European University Institute, 2007). Their destinations were diverse, with the most popular choices of Australia, North and South America, West Africa and Europe (ibid.). A further 1 million were displaced at some point in the civil conflict. In 2006, a similar pattern of movement emerged. An estimated 100,000 emigrated, the majority of them youth (UNDP, 2007). Across 2006 the numbers of Internally Displaced Persons (IDPs) in Lebanon ran from 5% to 20% of the population, equating to 216,000 to 800,000 (UNDP, 2009b, p. 251). When conflict did end return was quick. UNHCR (2006) estimated that by late August, only a few weeks after the ceasefire, there had been 550,000 returnees, whilst the Lebanese government stated a higher figure of 700,000 (UNHCR 2006, cited in Darwish, et al., 2009).

As shall be seen later on within this chapter and in the empirical chapters to follow, this history finds resonance with the context of the field sites. It is reflected in the injury and suffering caused by contamination; in the purposeful destruction of home and livelihood assets[22], in the mobility and residency patterns of respondents; and in the dispersed social networks they draw on within times of difficultly. A restlessness and fear of violence and conflict also continued to permeate the post-conflict landscape of the field sites. This led to emotive and non material responses to conflict and contamination that reflected the wider organisation of social and political relations. The costs of contamination in the field sites on household capital are discussed in Chapter 5.

4.4.3 The Effects of Conflict and Violence on Financial Capital

From its independence in November 1943 'Lebanon became a model of social and economic development in the Middle East, with impressive growth, high investment, and unmatched socioeconomic indicators' (Darwish, et al., 2009, p. 630). Indeed between 1975 and 1982, Lebanon bucked the overall trend of diminishing financial capital in an era of conflict. Financially, the effects of conflict were cushioned through healthy public and private reserves

[22] 'Domicide' in the language of Porteous and Smith, (2001 p. 12).

and balance of payments; the PLO headquarters in Lebanon developing a parallel war economy[23]; and rising remittances from Lebanese émigrés in an era of the oil boom (see Nasr, 1989). In line with the external intervention evident in Lebanon's civil conflict discussed above, US $300 million was also channelled annually into Lebanon in external grants and political backing. In addition to the direct protagonists in the conflict of Israel and Syria, funding flowed from stakeholders such as Saudi Arabia, Libya, Iraq, US and USSR to favoured Lebanese and Palestinian militia groups (ibid.). As a result, between 1970 and 1975 national income per capita almost doubled from US $647 to US $1,415. Significantly however, this rise continued for the next seven years when the country was at war. By 1982 national income per capita had reached US $2011, equating to a further 42% growth (Nasr, 1989, p. 45). In line with the literature on the political economy of conflict, referred to in Chapter 2, war had become institutionalised (Khazen, 2000). Fighters were organised and the 'interests of the warring factions were better served by keeping the country in a state of war, which became a lucrative business' (ibid. p. 5).

Yet post 1982 the ebbs and flows of Lebanon's insecurity were reflected in its economic and financial performance (UNDP, 2009b), as the factors above underpinning economic growth were removed one by one. In-kind, rather than monetary, inputs from Israel and Syria now dominated the field. The main monetary resources were supplied by a new foreign stakeholder, Iran, aligned with the arrival into the conflict of Hizbollah in 1983. In turn Lebanon's financial capital experienced the expected decline noted within the literature. By 1987 inflation stood at 600%, unemployment reached 35%, and national income per capita had dropped to US $250, only 12% of its value in 1980 (Nasr, 1989). There was also a flourishing parallel, or black, economy of 'private customs duties, forced taxation, protection money', alongside growth in the industries of arms trading and drug cultivation (Nasr, 1989, p. 48).

Although Lebanon's economic performance between 2000 and 2011 has improved - GDP increased from 20.08 US$ billion in 2000 to US $42.95 in 2012 (World Bank, 2012) - weaknesses remain that link to its history of hostility. The signing of the Ta'if Accords brought with it significant rebuilding, however this was funded on the back of heavy public borrowing

[23] The PLO administrative and operational headquarters in Lebanon were located within Lebanon from September 1970. By 1981 the PLO was generating 15% of Lebanon GDP. It created 10,000 and 30,000 direct and indirect jobs respectively. It ran 8 Palestinian hospitals, 100 schools, 108 diplomatic missions, alongside radio and newspaper media outlets, and brought with it 15,000 PLO fighters who saved in Lebanese banks and consumed Lebanese commodities and services (Nasr, 1989, p. 44).

from the domestic financial sector (Darwish, et al., 2009, p. 630). Debt servicing represented an estimated 13.2% of GDP in 2007, when net public debt reached US $39 billion (UNDP, 2009b). In 2007, the International Monetary Fund (IMF) noted that servicing debt accounted for 57% of government revenues; one of the highest debt to GDP ratios globally (IMF, 2007). The ratio of service payments to exports reduces the ability of the government to finance wider development work (ibid)[24]. As does the insecurity affecting Lebanon both in terms of the military expenditure it gives rise to; military spend wavered between 4.5% and 5.5% of GDP between 2000 and 2008 (World Bank, 2010) and the economic downturn that can accompany episodes of violence. In 2006, the GDP growth rate fell to -5%, a shift of 11 percentage points versus forecast figures, due to the 34 days of hostility. Tourism alone lost US $3 billion, including opportunity costs (UNDP, 2007). Decreased growth and fewer public revenues resulted as trade diminished, airports closed and ports were blockaded for two months which is estimated to have cost US $1.5 billion (Darwish, et al., 2009, p. 633). Unemployment stood in excess of 20%, more than double its pre-conflict total. Within tourism alone a quarter of the workforce, 120,000 people, lost work (UNDP, 2007). As remittances and the banking and tourism sectors have provided the mainstay of Lebanese growth, the instability of these sectors gains added pertinence. It is noted within the literature of the strategic economic reliance Lebanon has on a few sectors, and a few actors within those sectors (UNDP, 2009c). Indeed, although remittances help create an impression of healthy economic growth and a notion of national financial resilience in the face of wider political and military uncertainty, their levels can be argued to belie the delicacy and vulnerability of Lebanon's situation.

These wider effects of conflict on financial capital play through to the financial circumstances of households in the field sites. Contaminated land following the civil conflict led to unemployment and a change in livelihood trajectories. Data on how the financial capital of households was compromised were particularly pertinent following the 2006 conflict. Conflict and contamination led to the loss of productive assets, it blocked agricultural land, harvests were lost and incomes were eroded, at times for a number of years. Contamination led to unemployment. Yet, it also shifted local labour markets and led to economic opportunities for some, by which financial capital was strengthened. The transformative effects of contamination on household financial capital are discussed in Chapters 5 and 6.

[24] Official development assistance and official aid stood at US $ 199 million in 2000, 243 million in 2005 and 939 million in 2007, the year immediately following the 34 Day War (World Bank, 2010).

4.4.4 The Effects of Conflict and Violence on Political Capital

The civil conflict affected political capital in a number of ways. Through its system of zu'ama, there has always been a tradition of patronage and clientelism within Lebanese politics and governance. Until the elections in 1992, all preceding parliamentarians had belonged to one of a number of prominent Lebanese families. The civil conflict did open politics beyond this closed political elite, but only to a degree. With political parties founded on confessionalism, the principles of zu'ama were retained. As Ismael and Ismael (2011, p. 262) note: 'While the zu'ama have largely receded as the preeminent shapers of Lebanese politics, the sectarianism they embodied has not'.

In this sense the civil conflict and the Ta'if Agreement at its end reaffirmed the old order rather than ushering in the new. Parliamentary representation was amended to create Christian and Muslim equilibrium; however 'religion is a permanent feature of politics' (Ismael & Ismael, 2011, p. 271, IFES , 2009). Elected seats were allocated to districts on a confessional basis. Consequently, within national elections Nabatieh and Tyre's three and four Shi'a seats respectively (IFES , 2009) are contested by allied candidates of Amal and Hizbollah. The same process occurs in municipal elections. Amal and Hizbollah, both with their roots in armed Shi'a resistance in the civil conflict, exemplify Goodhand's (2001) case for the rise of military actors in contexts of conflict. This is particularly so in the case of the latter, which despite international calls for its disarmament, retains armed sections. Indeed the continued marginalisation of the Shi'a within Lebanon's political system and the failure of Ta'if to account for the changing demographics of the country, has been argued to sit alongside a 'concurrent empowering of Hizbollah' which is now a 'permanent fixture in the Lebanese political environment' (Ismael & Ismael, 2011, p. 270 and p. 272). Hizbollah may be associated with Lebanon's more marginalised groups politically but it has moved from the periphery to the centre in terms of Lebanon's politics. Since 1992 Hizbollah has held seats in parliament, this includes cabinet posts and the party has been a coalition partner in government (Levitt, 2013).

The composition of Lebanon's formal politics has been argued to be indicative of the relationship between society and state within Lebanon (Khazen, 2000). Khazen notes that 'Lebanon is a multi-national, or more accurately a multi-communal state. This in turn raises the question of legitimacy and, by extension, the effectiveness of a political system in situations of crisis, particularly when consensus among communal leaders is lacking' (Khazen, 2000, p. 6). Although referring to the onset of the civil conflict, this description remains apt.

The cohesiveness of Lebanese society and state remains fragile, with relations across Lebanon's mosaic of different religious and political communities held in delicate balance. In essence 'loyalties... transcend state boundaries' and the Lebanese state operates in a context of weak central control, potentially for that very reason (ibid. p6). Even prior to its prominence within elected government, Hizbollah operated a parallel state amongst its constituent heartlands, including southern Lebanon, across the fields of security, media and social support. Indeed, the conflict in 2006 was not between Israel and Lebanon, but Israel and Hizbollah. Furthermore, the rare victory against Israel bestowed on Hizbollah both within Lebanon and the wider Arab World at its conclusion, reinforced Hizbollah's, rather than the state's, position as protector against Israeli aggression, particularly for the Shi'a. As Khazen (2000) points out, Lebanese society remains supreme over the state. When this is combined with the sectarian power sharing agreements of Lebanon's parliamentary legislative and executive, and consideration is given to the external political power bases sitting behind Lebanon's confessionally based political parties, instability, discord and volatility, as found in the field sites, result.

Understanding this landscape of southern Lebanon is important for the research on a number of fronts. Located towards the very periphery of Lebanon's territory, the space of the field sites is contested figuratively as well as literally. This backdrop helps explain not only the violence and political insecurity the field sites are exposed to, and the very presence of contamination itself, but the actors and their networks that operate therein. This environment lies at the crux of understanding the methodological issues discussed in Chapter 3. It is influential in shaping the operational aid and security landscape, of which mine action is a part and helps explain the potential for political disenfranchisement. Moreover, it links into how violence and contamination are responded to within the field sites and the resilience and resistance that emerges within livelihoods and patterns of everyday living. This theme runs throughout the empirical chapters, but discussion on the relationship between conflict, contamination and political capital of households is of particular note in Chapters 6 and 7.

4.4.5 The Effects of Conflict and Violence on Social Capital

As detailed above, internal relations between Lebanon's mosaic of religious and political communities was and remains turbulent. It is unsurprising then that identity and space are very much linked, as detailed in Figure 4-1 earlier in this chapter. Indeed, post civil war an

intensification of confessional clustering became a tangible manifestation of the further decline in the country's social capital. Writing in 2002, and noting the challenges awaiting Lebanon in her reconstruction, Khalaf (2002, p. 305) identifies one of Lebanon's unsettling transformations as 'the salient symptoms of retribalisation apparent in reawakened communal identities and the urge to seek shelter in cloistered spatial communities'. These spaces serve to reinforce communal and territorial identity. Highlighting the concepts of memory, space and identity in this process, Khalaf comments upon how this outcome is a means to both 'remember and forget': To remember or revive 'communal solidarities and threatened heritage', and to forget or displace, memories of a war in which the Lebanese inflicted untold horrors on the Other with 'escapist and nostalgic predispositions' (ibid. p. 306).

This helps explain why despite Lebanon's multi-cultural composition the respondents within the fields sites are overwhelmingly Shi'a. It also in part sits behind the importance of identity expressed by respondents and the imaginaries they held of home and homeland that will be discussed in Chapter 6. The spatiality of Lebanon's confessional make up and the association of Hizbollah to the Shi'a struggle also explains why the field sites were targeted within 2006. In 2006, Israel targeted Hizbollah strongholds. This led to the bombings of Shi'a dominated southern Lebanon, including the field sites, and Beirut's Dahiya, or southern suburbs. Analysis of the response to the 2006 conflict provides additional evidence on the prominence of Lebanese society over state (Khazen, 2000) and the relationship between Lebanon's centre and periphery. In comparison to the response of Hizbollah and the Civil Defence Force during the conflict, and that of Jihad al Bina, Hizbollah's reconstruction and post conflict development arm, after the conflict, the Lebanese Government was found wanting (Shearer & Pickup, 2007). Indeed within 72 hours of the cessation in hostilities, over US $100 million had been distributed by Hizbollah towards compensation and reconstruction for affected communities. Commentators linked this funding back to Iran as well as mobilised Shi'a networks (Hamieh & MacGinty, 2010). The erosion of social capital also occurred with the Western international community and the UN. There was a perceived lack of response from Western donors in comparison to their Middle Eastern counterparts, whilst some of the aid pledged by the West was linked to governance and financial reforms (Hamieh & MacGinty, 2010). Moreover, the UN was already viewed by elements of the Lebanese populace as the purveyor of ineffectual Security Council Resolutions and UNIFIL troop presence that repeatedly failed to uphold Lebanese sovereignty when challenged. The submission of Resolution 1701, brought to the UN Security Council one month after the conflict in 2006

commenced, underlined the institution's failure and impotence for some (Shearer & Pickup, 2007). In a view from Beirut's southern Shi'a dominated suburbs, Hamieh & MacGinty (2010, p. 118) note: 'people have a memory of who helped and who didn't'.

Set against this context, the environment of mistrust and suspicion sometimes encountered in the field sites, as detailed in the previous chapter, is more understandable. This also resonates with their perceptions of the roles of the mine action sector and wider international community that were at times relayed in the field. Yet, more pertinently perhaps, the discussion above links to the importance attached by respondents to territory, sovereignty and identity. Further, there was significance attached to idealised memories of home. Collectively these factors relate to community actions of self-help to deal with the consequences of contamination through which social capital could be argued to strengthen. These ideas are discussed in Chapter 6 and 7.

4.4.6 The Effects of Conflict and Violence on Physical Capital

Goodhand (2001) refers to the effects of conflict on physical capital both in terms of the destruction of infrastructure and landmine contamination. Given the central role contamination plays in the research the nature and extent of contamination within the field sites, and Lebanon more broadly, will be considered specifically later in this chapter.

To turn directly then to the effects of violence on infrastructure: 15 years of civil conflict from 1975 to 1990, and a further 10 years of Israeli occupation in Lebanon's south, severely compromised Lebanon's infrastructure. Towns, villages and homes were destroyed. Water, sewerage and road networks were compromised through lack of maintenance (World Bank, 2013). The 2006 conflict caused widespread damage to Lebanon's economic and social infrastructure. This included damage or destruction to: 612 public schools; 80 private schools; 16 hospitals; 65 outpatient clinics; 850 commercial manufacturing and service enterprises; 97 bridges; 151 road segments; and 3 airports (UNDP, 2007). 30,000 housing units were destroyed with a further 100,000 partially damaged (Darwish, et al., 2009). Consequently, access to health, shelter, education and water and sanitation were all undermined, as were employment options, local and national markets and commercial capabilities. In its analysis, the Government of Lebanon (2006) noted 31 factories in South Lebanon, Bekaa Valley and Beirut suburbs were damaged or destroyed to the value of an estimated US $220 million. Otherwise an estimated 95% of manufacturing industries and

service providers were operating between 0% and 20% of usual capacity as the effects of no/limited power supplies were felt; workforces and supplies were disrupted; and as already seen, exports were hindered by ongoing air and sea blockades. Overall losses were estimated as US $30 million per day.

Given the extent of impact on Lebanon's infrastructure and the nature of the damage, the literature reflects upon the degree to which the targets were military and/or civilian. As Gregory notes, there was a systematic targeting of civilian infrastructure 'knowingly increasing the number of indirect civilian casualties as food, water and medical supplies were compromised and the delivery of aid was severely restricted' (Gregory, 2006, p. 46). The direct targeting of civilians and specific instances of unlawful killings were also noted. As encapsulated by UNDP (2007 , p. 10): 'Civilians on both sides were deliberately targeted. The protection of civilians, humanitarian access (e.g. for rescuing the wounded), and proportionality in the conduct of war, as enshrined in international humanitarian and human rights law were severely compromised and, in several instances, were egregiously violated'. The overall impression from the literature was that in 2006 there was an excessive use of force and a blurring of the boundaries between legitimate combatant, terrorist and civilian by the IDF and Hizbollah (HRW, 2006, HRW, 2007a,HRW, 2007b).

This then raises a number of issues to consider within the field sites. Firstly to reinforce the context of instability and insecurity that the field sites were embedded within. Secondly to signpost the human costs to the conflict and contamination that will be detailed within Chapter 5. In particular, how the 34 day war of July-August 2006 articulated in very real ways the widening of spaces of exception, and how bio-politics has become associated with the war on terror. These ideas and the material and non material and emotive consequences they had on livelihoods and well-being in the field sites are discussed in Chapter 5 and 7.

4.4.7 The Effects of Conflict and Violence on Natural Capital

The environmental impact from the 34 days of hostilities in 2006 was clear. Damage caused to the Jiyyeh power plant led to 15,000 tons of oil contaminating 150km of coastline, for example. 3 million cubic metres of demolition waste and rubble had to be disposed of (UNDP, 2007, UNDP, 2009c). Hot spots of hazardous waste from destroyed or damaged industrial and health care facilities were identified, alongside contaminated surface water, groundwater and sea water from damaged sewerage and waste infrastructure (Government of Lebanon, 2006, (UN Environment Programme , 2007).

Given the focus of the research however, it is important to identify the impact of the conflict on land. This is particularly so given the prominence of agriculture to livelihoods within southern Lebanon, as detailed above, where the research was conducted. Following the civil war, the Lebanese LIS noted 22% of communities they surveyed were affected by landmines. The main blockage caused by contamination was identified as access to various forms of agricultural land (NDO, et al., 2003). In 2006, the impact of contamination on agricultural land was also noteworthy. From the 3,897 hectares of land contaminated, 2,596 hectares or 66% was used for agriculture (Landmine Action, 2008). Agricultural lands in the caza, or districts, of Tyre, Bent Jbeil and Nabatieh, where the research is located, were the most heavily affected by contamination nationally. Within Tyre caza, 7.2% of agricultural land was contaminated; followed by Bent Jbeil at 7% and Nabatieh at 5.9%. These caza accounted for over 80% of losses in agricultural production (ibid.). For those agricultural communities heavily affected by cluster submunitions in 2006, such as the field site of Sahnen located within Tyre caza, the effects on livelihood and livelihood security could be significant.

Whilst contamination did affect physical assets such as homes within the field sites, primarily the transformations and reworking of lives and livelihoods that it linked to were associated with land. As already noted in the discussion above, the contamination of land – and the erosion of natural capital that this caused - had implications for the human, financial, political, social capitals and physical capitals of households in the field sites. As such although the costs of contamination on natural capital are dealt with specifically in Chapter 5, they link to discussion throughout the empirical chapters.

4.4.8 Diminished and Altered Livelihood Capitals as a Legacy of Conflict

To return to the questions posed at the beginning of this section, when analysed using Goodhand's (2001) framework, Lebanon suffered the effects of conflict across all six capitals. Effects were both material and non material, immediate and enduring. They continue to bear influence on livelihoods and well-being. In line with the effects of conflict listed, in the field sites loss, displacement, infrastructural damage, financial and economic decline were all experienced. Political and social relations realigned, in turn emphasising certain cultural values and beliefs. As will be evidenced in the empirical chapters ahead, the re-workings of human, financial, political, social, natural and physical capital that conflict has involved in the field sites has left an imprint on well-being and on livelihoods and their trajectories and pathways. However, this is not to say that all effects are equally weighted. The question then

becomes: how, where and why do they vary? Do they endure? This theme runs through the empirical analysis. Moreover, this also does not signify that transformations to capitals operate equitably across all scales. At a national level it is the standing of Lebanon's political and social capital that is a pivotal influence on Lebanese livelihoods. It is political and social capital that will determine whether the sectarian fractures, and the geo-political axis that they balance upon, tip from a state of instability to one of direct internal and/or external confrontation. Post conflict, at the household and individual levels, including within the field sites, ebbs and flows in political and social capital form a noisy background to more tangible capital shifts of displacement and mobility, rebuilding homes, rebuilding businesses, overcoming lost income, maintaining or finding income streams; namely 'getting on with it'. It is into this mix that contamination is thrown. Lebanon's mine action sector and the nature and extent of contamination that it seeks to address are now discussed.

4.5 Lebanon and Mine Action

As detailed within Chapter 1, Lebanon's contamination incorporates bombs, booby traps, rockets, grenades, artillery munitions, mortars, landmines, and cluster munitions as well as cluster submunitions. The complexity of Lebanese military and political history, as detailed above, has led to a layering of contamination through time. Main sources of contamination breakdown into landmine and cluster munition contamination, relating to the periods of civil war 1975 – 2000, the 34 Day War in July-August 2006, and post 2006 sources of localised instability. This research is primarily concerned with landmines and cluster submunition contamination that remains in the field sites from the civil conflict and Israel's 'Operation Just Reward' against Hizbollah in 2006, detailed above.

4.5.1 The Job of Clearance: The Lebanese Mine Action Sector

The ratification of the 1997 UN Convention on anti-personnel landmines[25] (and arguably the UN Convention of Cluster Munitions in 2010) has been associated shift in development policy

[25] Due to continuing tension with its neighbours, Lebanon has not signed the UN Treaty on anti-personnel landmines. Statements within 2009 indicated that Lebanese concerns of over the security of its southern border, as highlighted in the 2006 conflict, alongside the continuation of conflict with Israel prevented its adoption by the State (ICBL, 2010). Consequently in December 2009 Lebanon was one of only 18 countries abstaining from UN General Assembly Resolution 64/65 that called for the universalisation of the Treaty (ibid). However, conversely, Lebanon played an influential and highly

towards securitisation (Shaw, 2008). Mine action operators embody this relationship on the ground. International treaties are translated through national governance structures and national mine action centres, such as the LMAC, into implementation work plans assigned to individual organisations, such as MAG. MAG, and other mine action agencies, then find themselves in a unique position within the humanitarian and development aid spectrum. A mix of often military national authorities, international NGOs and commercial companies, funded by foreign policy as well as development departments of overseas donors, their work although humanitarian and developmental, has a military and political backdrop.

This is no more so than in Lebanon. Mine action within Lebanon at the time of data collection was shaped by the principles of ESS and ALARA. The ESS - End State Strategy - was established in 2004 and seeks to make Lebanon 'impact free' from contamination (ICBL, 2009). This is an important distinction from being fully cleared. In doing so Lebanon takes an ALARA approach – 'as low as reasonably achievable' - to determine the levels of mine action delivered that will be shaped by available resources, the findings of technical surveys and so on. There is therefore an inherent acknowledgement by mine action authorities that some contamination will remain uncleared and recognition of its residual risk (NDO, 2008, Bowness, 2005). Working under these principles the governance of mine action falls to the Lebanon Mine Action Authority and the Inter Ministerial Advisory Committee for Mine Action (LMAC, 2007). Chaired by the Ministry of Defence, this committee brings together a range of Ministers including the portfolios of foreign and internal affairs to provide mine action's strategic direction. The everyday management of mine action is then delegated to the LMAC including the deployment of clearance operators such as MAG (LMAC, 2007, LMAC, 2008). As of 2010, there were two national operators, including the Lebanese Armed Forces (LAF), and five international operators working specifically on clearance in Lebanon[26]. This comprised European NGOs, including MAG, and UNIFIL (Belgian, Chinese, French, Italian, and Spanish battalions) (ICBL, 2013a).

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visible role during negotiations on the Convention on Cluster Munitions (HRW 2009). The Oslo process, so named due to its initiation by Norway, commenced against the backdrop of international campaigning and reflection that followed Israel's Operation Just Reward and more specifically its use of cluster munitions. Through the Convention, the production, use, stockpiling and transfer of cluster munitions is subject to control. There are also international commitments of support for clearance. Currently the Treaty has been signed by 108 states, including Lebanon on the 3 December 2008 (UN News Service, 2010). Lebanese ratification came shortly after the Treaty entered into binding international law on the 1st August 2010.

[26] As opposed to other areas of mine action such as risk education.

In line with the commitments made by signatories to the UN Treaties on landmines and cluster munitions, operators are funded by a range of 12 bi-lateral donors and the UN Relief and Works Agency for Palestinian Refugees in the Near East (UNRWA). In 2009, international mine action funding to Lebanon totalled US $21m. Of this US $14.6m was provided by the US, Belgian and Norwegian governments. In addition the Lebanese government provided US $6.5 million in kind through the LAF, whilst the LMAC sought to increase domestic funding through corporate partnership with the prominent Lebanese Blom Bank (ICBL, 2013b). As is evidenced in the empirical chapters, mine action agencies such as MAG then occupy a humanitarian space that sits at a military - political – humanitarian interface. Details of the contamination they seek to clear in Lebanon are detailed below.

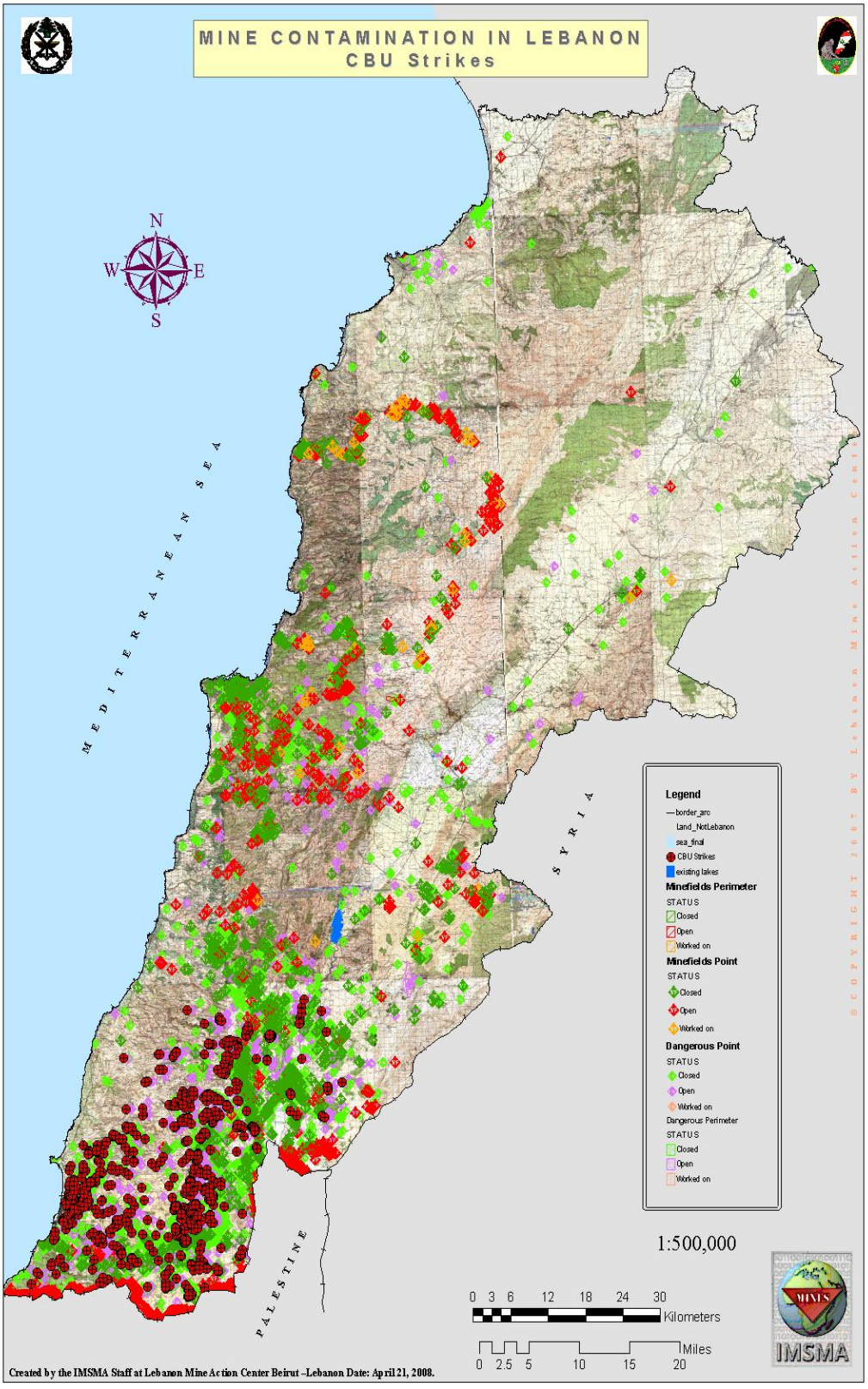
4.5.2 The Extent and Nature of Contamination

The extent and nature of contamination in Lebanon can be seen in Figure 4-2 below. Images of contamination found in Lebanon can be seen in Annex D. The 2002-2003 Landmine Impact Survey, undertaken across 96% of Lebanon's communities[27], highlighted that five out of six Governorates in Lebanon, were affected by landmines (NDO, et al., 2003). This comprised 306 communities and 137km^2 of land (ibid.). Between 1999-2008 mine action operations within Lebanon cleared 117km^2 of land and removed 192,331 anti-personnel mines, 2,101 anti-vehicle mines, 45,653 items of UXO and 194,447 cluster submunitions (ICBL, 2009). As of 1 January 2010, the year of data collection, the LMAC stated 138 hazardous suspected areas still remained, alongside 546 mined areas and 1,541 minefields. Within South Lebanon and Nabatieh Governorates, the location of the research, the numbers of minefields were 212 and 820 respectively (ICBL, 2010).

In terms of cluster submunitions, across the 34 days of hostilities in 2006, the IDF deployed over 7,000 air attacks and 2,500 sea based bombardments against Lebanon. 1,073 cluster strikes were confirmed by 2009, with a further 282 potential strike locations being located through re-surveying undertaken by the LMAC in 2010 (Gregory, 2006, ICBL, 2009). In addition to IDF munitions, 1,207 Hizbollah munitions were also found inside Lebanese

[27] Security considerations prevented 100% coverage.

Figure 4-2 Lebanon's Minefields and Cluster Strikes



(LMAC, 2008a)

territory, believed to have either fallen short, misfired or been abandoned by operatives during incoming bombardment (HRW, 2006). From these cluster strikes more than 4 million submunitions were released, concentrated upon the Governorates of South Lebanon, Nabatieh and the Bekaa Valley, as well as the southern suburbs of Beirut. Controversially the heaviest bombardments came the final 72 hours of the conflict as a ceasefire was under negotiation (Gregory, 2006, HRW, 2006, LMAC, 2008). The age of the submunitions, some of which date from the 1960s and 1970s, meant not all contained self-destruct mechanisms. This, alongside the failure of other munitions to explode on impact, left an estimated 500,000 submunitions unexploded at the conflict's conclusion (HRW et al 2009). As of the end of 2009, an estimated 23km^2 of land remained to be cleared of cluster strikes (ICBL, 2010). At the time of data collection this clearance was the priority for the LMAC, with former landmine clearance capacities being moved over to cluster clearance, aside from limited resources still being deployed on the UN delineated Blue Line on Lebanon's southern border (NDO, 2008).

4.6 Setting the Scene: Contamination and Beyond in the Post-Conflict Landscapes of Arrefir and Sahnen

As already noted in the sections above, the material and non material legacies associated with Lebanon's history of conflict and violence filter through to post-conflict landscapes of the field sites. Building on this foundation, the discussion to follow aims to set the scene to the immediate context of data collection. Primarily focussing upon the contamination Arrefir and Sahnen have been subject to, it also highlights some of the more tangible consequences of conflict such as displacement and the erosion of physical assets that will be built upon in the empirical chapters ahead.

4.6.1 Arrefir – Nabatieh Governorate[28]

Arrefir is located in the peri-urban hinterland of the regional capital of Nabatieh. Due to its strategic location, waves of conflict directly affected Arrefir. This has resulted in multiple periods of movement and return, presence and absence within the village for its population of 1,707[29]. It has also led to a layering of contamination. Most commonly flight occurred in

[28] Field site 1.

1976, 1982 and 2006. This corresponds firstly with the arrival in the village in 1976 of the PLO, leading to IDF bombing campaigns that included the use of cluster bombs. Then in 1982 there followed the taking up of ground positions in the village by the IDF and the SLA, a Maronite ally. This led to Palestinian mine laying as fighters moved to protect positions, alongside Israeli bombardment from positions internal and external to the village. Finally in August 2006, the 34 day war between Hizbollah and the IDF led residents to flee. Due to successive periods of conflict and occupation, absence from the village for respondents spanned 14 days to decades with differential patterns of return. In 1985, during the civil war, some respondents returned when the Israeli/SLA occupation of the village remained, yet active conflict with the PLO had ceased (although resistance from Lebanese militia continued). However the majority of returns were in 2000, upon the withdrawal of IDF forces from southern Lebanon. In 2006, if movement had occurred, return was immediate.

The impact of the 2006 conflict on the village was considered minor by respondents and key informants compared to that of the civil war. The village was occupied by the IDF/SLA until Israel's withdrawal from Lebanon in 2000. As highlighted in the literature noted above and in Chapter 2, issues of protection emerged. There was a blurring of civilian and military targets. Respondents reported that as the IDF and SLA arrived in the village, houses and agricultural plots were cleared as strategic military positions were reinforced: '*when Israel came...mines came, [the] bull dozers working day and night reinforcing their support*' (resident of Arrefir, female, interview date 9 June 2010). In Arrefir there were reports of homes being occupied by SLA troops, possessions being stolen, and fires being set to crops and olive groves. Arrests were made and approaches were made to recruit informants amongst village members. Checkpoints were installed at the village outskirts, no vehicles were allowed within the village, so goods had to be carried in by hand or by cart. Given the damage to the village's infrastructure, there was no water or electricity. Living conditions were generally described by respondents as 'poor': 'a nightmare'. Ali described his visits to the village during this time as follows: *'Israelis would watch me walk in...walk to my house, look at house, walk to the cliffs. It was surreal. No cats in the village. [A] wilderness. Weeds growing through the walls...Weeds had penetrated the houses*' (Ali, male, interview date 14 August 2010). The sense was one of a tense, mostly abandoned, militarised wasteland.

[29] Figures taken from the electoral roll (Direcorate General of Personal Status, 2010). Therefore as discussed in Chapter 3 these figures refer to the population eligible to vote, hence over the age of 21.

At the Israeli withdrawal in 2000, Arrefir was left with minefields on the village edge. Formerly agricultural and grazing land, at the time of data collection in 2010 this land remained unoccupied and unused. Contamination from mines, cluster bombs and other UXO was also reported by respondents on land near the minefields, around former Palestinian bunkers and strategic military points within the village. Some of these areas are inhabited and used, others not. On top of this landscape, the conflict in 2006 essentially caused damage and destruction rather than submunition contamination in the village itself. However, significant losses for households could nevertheless occur, outside the village, due to where livelihoods and practices in everyday living were sited. The multi-spatial nature of livelihoods in Arrefir (and Sahnen) will be returned to in Chapter 8. The effects of conflict and contamination were felt across space. They were also felt across time, spanning decades rather than months or years.

Outside of the minefields, contamination from cluster submunitions and associated UXO was mostly concentrated on the slopes running up to the highest point within the village; a position the IDF sought to capture and then maintain. During the civil war, housing and agricultural plots in this area were reported as being largely demolished by IDF/SLA forces as they cleared land surrounding their key position. With all but a few exceptions, plots in this area were being used for housing and gardens. The Army had undertaken clearance within this area, as had MAG in 2007 and 2008 on two specific tasks. One task remained suspended at the time of the research. Through the other, 12,497m^2 of garden / agricultural land belonging to one household was cleared across six months. Clearance of this area found 162 cluster submunitions and 76 other items of UXO, including mortars and fuses (MAG Lebanon, 2007, MAG Lebanon, 2008). From 2005 at least two different mine action agencies are reported to have undertaken clearance on the minefields. This land however is still regarded as contaminated and unsafe by respondents. Signage warning of the presence of mines and some fencing was still present.

4.6.2 Sahnen - South Lebanon Governorate

Sahnen is located in the hinterland of Tyre with a population of 733[30] . In comparison to Arrefir, the key conflict affecting Sahnen was the 34 day war between Hizbollah and the IDF during July - August 2006. Although movement by respondents was similarly reported in 1978 and 1982 during the civil war, and also occurred in 1993 and 1996 due to Israel's Seven Day

[30] Figures from the electoral roll (Direcorate General of Personal Status, 2010).

War and Grapes of Wrath operation against Hizbollah, absence from the village was days and weeks rather than years as in Arrefir. In 2006, although some respondents stayed during hostilities, the majority fled. Return was concurrent and swift, at times within hours of the ceasefire being declared. Upon return in 2006 respondents found the village had been affected much more extensively and significantly than in previous hostilities. On describing their arrival, respondents talked of an 'apocalypse', an 'abandoned village' or 'as if you were in the graves' to highlight the extent of damage, alongside the dishevelled appearance of fellow villagers. Within the administrative area of Daphna, within which Sahnen sits, the local administration reported 615 houses destroyed and a further 200 damaged, alongside the elementary school and hussaini[31]. Water and electricity were initially unavailable, some shops opened but food supplies were limited at the outset. Key informants estimated 30% of the planted, namely agricultural, land in Sahnen was contaminated by the conflict's end (interview date 21 July 2010).

In 2006, cluster bombs were encountered by respondents on the village's access road and before they reached the village limits. Within the village, the overall impression given by respondents was of pervasive contamination. Cluster submunitions were found on roads, in houses, on roofs, in gardens, at the bottom of steps, and in one instance, next to an outside toilet. Within Sahnen's plantations and agricultural plots contamination was found on the ground between crops as well as within the foliage of the crops themselves. As one resident of Sahnen recalled: '*clusters around the house, on the road, clusters hanging from the trees*' (resident of Sahnen, male, interview date 23 July 2010). Explosive damage and/or contamination in Sahnen in 2006 was widespread.

Working with the UN, the Lebanese Army was primarily responsible for the rapid response clearance in the immediate aftermath of the 2006 conflict in Sahnen. As international aid flowed in given the scale of cluster contamination, new clearance operators arrived in Lebanon and the capacities of existing organisations, such as MAG, expanded. Priorities for clearance were tasked as homes, roads and those areas which would enable public services to resume. Up to the time of data collection in 2010, MAG had completed 22 clearance tasks in Sahnen, two of which were suspended. In this process 2,214 cluster submunitions, 1 cluster bomb rocket, and 60 other items of UXO were found. The first task started mid-September 2006, weeks after the conflict ended: The last in October 2007. The objectives of

[31] A religious community centre.

19 tasks related solely to agricultural clearance, whilst three tasks focused upon both housing and agricultural land (MAG Lebanon, 2006, MAG Lebanon, 2007).

Although in Sahnen some households did have multiple physical and natural capital assets affected through different periods of hostility, in general affects were more temporally concentrated than in Arrefir. As in Arrefir, such multipliers were not just contained to the space of the village but also occurred across space. However whereas in Arrefir this primarily related to a division between the location of housing and place of work, in Sahnen the reasoning differed. For the majority of respondents in Sahnen livelihoods were primarily tied to agriculture, specifically the banana and citrus plantations that are within and surround the village. Generally the locations of work and housing were proximal. The effects of contamination across space therefore related instead to the history of displacement within the population. As a consequence of the civil conflict detailed within this chapter, Sahnen was the recipient of displaced individuals, families and communities. These groups, fleeing conflict, moved to Sahnen from villages further south nearer to the Blue Line. For the residents of Sahnen originally from the Blue Line, in 2006 household assets were not then only affected within Sahnen but also in their home villages. These issues, and the implications for the impact of contamination and clearance on livelihood they give rise to, are explored in Chapter 8.

4.7 Concluding Comments: Life and Livelihoods in Present Day Lebanon

The primary aim of this chapter was to situate and embed the focus of enquiry contamination and clearance, and the field sites, in context. This has meant the past be drawn to the present. The research is intimately, and obviously, tied to the past through contamination. Contamination constitutes a tangible legacy of hostility in Lebanon. However, through the chapter it can be seen that the research links to the past more broadly. Beyond the issue of contamination itself, other physical/material and emotive/non material legacies of conflict resonate with lives and livelihoods in Lebanon's present.

Lebanon, and the field sites specifically, continue to bear witness to instability and insecurity that gives rise to episodic violence. The disillusionment, tensions and politics that initiated the civil conflict in 1975 still, in part at least, exist today. There is a continued fragility of internal government and governance continues to be undermined from a number of angles.

The Tai'f Accord brought peace but only with a range of sectarian concessions and as such political processes remain compromised. Regional forces continue to wield influence along confessional lines. Persistent socio-economic disparities divide Lebanon's complex population of different ethnic, religious and displaced groups. Tensions remain and upon provocation society readily splits down confessional lines. Moreover, the military might and historical dominance of Israeli and Syrian neighbours forever cast long shadows over this diminutive state. The intertwining of Lebanon and Syria's relations currently being highlighted in the proportion of Lebanon's population comprising Syrian refugees. This interplay of geography, society and politics has given the hostilities experienced to date a distinctly Levantine flavour. It also means political turmoil, insecurity and instability are never far away. As seen, Lebanon's post-conflict transformation has more recently followed the ebbs and flows of this violence. Gains have been made but have also been quickly eroded. Lebanon's growth and development is naturally influenced by such matters and the livelihoods of its populace, including those within the field sites, cannot be divorced from this.

As demonstrated, using Goodhand's (2001) framework, the understood effects of Lebanon's history of violence, are ongoing. This includes those associated with contamination. As argued Lebanon may not be poor and opportunities for livelihoods exist, but livelihoods also remain exposed to external shock and certain groups remain vulnerable, politically as well as economically. At times insecurity forms a noisy backdrop to the playing out of everyday lives. At others however, when the fragile peace is destabilised, it becomes a principal influence in defining everyday living. This is particularly so in southern Lebanon, the location of the research. In the field sites, if the household decision has been made to stay within Lebanon then livelihood strategies for the past 35 years have involved cycles of moving, coping and returning to a contested landscape in the political, as well as geographic, periphery of the country. This includes adapting to and coping with contamination.

Consequently, the immediate context to the research is one that continues to bear the economic, physical and social consequences of conflict and violence. Here within the Shi'a heartland of Amal and Hizbollah, with its militarised Blue Line with Israel, the presence of UNIFIL troops and returned and displaced households, incidents can quickly escalate. It is a landscape of mobility, protection and (in)security. It is also however also a landscape of rebuilding and generally getting on with it. The nature and extent of contamination, both past and present, in the field sites is both a constituent part and outcome of this insecurity. The effects of contamination have been shown to permeate and rework livelihood capital. Effects

have been both material and non material, immediate and enduring. Contamination and clearance may be an ingredient of the wider backdrop of instability but the inhabitation and use of contaminated or cleared land is a variable in household livelihoods and decision making, and it is this variable that will now be explored. How livelihoods suffered from, coped with or adapted to contamination, or benefitted from clearance within Arrefir and Sahnen will now be turned to in the following chapters.

CHAPTER 5 SUFFERING FROM A LEGACY OF CONFLICT: THE COSTS OF CONTAMINATION

'*All my life this is all I have. I live from this. It is my only income. It gives me life.*'

(Mansour, male, interview date 30 July 2010)

5.1 Introduction

As discussed in the introduction to the thesis, the typology of contamination's impact that has emerged through analysis of a range of contexts highlights three key areas. Economically, contamination is viewed as a blockage to a range of resources such as water and firewood, agricultural land and infrastructure. This affects both subsistence and commercial production and distorts economic and social behaviour. Human costs relate to death and injury associated with contamination, with medical care, rehabilitation and changes in the ability to work placing a burden upon health systems as well as the household of the victim or survivor. Both of these factors feed into a third understood set of consequences, that of the relationship between contamination and poverty. This includes the prevalence of contamination in poorer areas, the relationship between accidents and poverty, and the adoption of risk behaviour. Such benchmarks provide useful jumping off points for the chapter ahead.

Within Chapter 4, following the work of Goodhand (2001), the immediate and enduring effects of violence in Lebanon on capitals and assets were detailed. The context to data collection was also set as details of the contaminated, post-conflict landscapes of the field sites were put forth. What was absent from Chapter 4 however was to bring these two areas of discussion together: namely to consider the impacts one of the listed effects of violence –

contamination – had on life and living in the listed areas of data collection – Arrefir and Sahnen. This is the task now turned to. Chapter 5 drills down thematically and geographically on the preceding discussion. Narrowing the frame of analysis, it seeks to elucidate how contamination impacted upon livelihoods and everyday lives within the defined context and circumstance of the field sites. Specifically it will consider the suffering and costs to livelihoods that were encountered as a consequence of contamination, and in doing so, the following research questions:

How does contamination impact upon livelihoods in the field sites?

- How is vulnerability[32] affected by contamination?
- How is livelihood security[33] affected by contamination?
- Do livelihoods in contaminated environments vary between different community subgroups, households and individuals, and if so why and how?

To commence, discussion will return to the livelihoods literature, and the concepts of livelihood trends, shock and vulnerability context introduced within Chapter 2. Given their significance to the chapter ahead, these concepts will be expanded upon. Thereafter, findings from Arrefir and Sahnen on the costs to livelihood associated with contamination will put forward. It will be argued that, in line with the literature, the costs and suffering from contamination in Arrefir and Sahnen undermined physical, natural and human capitals of livelihood. The nature of impact on each capital and the constraints in livelihood they gave rise to will be considered in turn. Expanding discussion beyond the livelihoods literature, how contamination's impact 'speaks backs' to the literature on well-being, DRR and post-colonialism will then be examined. It will be shown that the very presence of contamination, along with its impact linked to, and was representative of, the wider organisation of social and political relations. Within the conclusion, discussion will return to the research questions set out above. How the findings laid out in the chapter illuminate these areas of enquiry will be drawn together.

[32] As defined in Chapter 2: Vulnerability – a function of exposure to and susceptibility to risk: 'Vulnerability is determined partly by risk factors that are *generic* to groups of people who are connected geographically or by shared risk characteristics ('exposure'), and partly by risk factors that are *specific* to individuals or individual households ('susceptibility') (Devereux, 2001, p. 509).

[33] Livelihood Security - refers to secure rights, physical safety and reliable access to resources, food and income, and basic services. It includes tangible and intangible assets to offset risk, ease shocks and meet contingencies' (Chambers, 2004, pp. 10-11)

5.2 Livelihoods, Shock and Trends

In the adapted SLF of Collinson et al (2002) and Collinson (2003) introduced in Chapter 2, 'shock' alongside 'trend' act as components of vulnerability and context. Shocks and trends are conceptualised as mostly exogenous events, beyond household control. Whilst mostly associated with triggering a decline in livelihood security and well-being, livelihood benefit may sometimes result. As the names suggest, trends comprise longer term drivers of change to the context in which livelihoods are played out and are influential factors in the rates of return in livelihood activity (DFID, 1999). Shocks produce more immediate and abrupt change to circumstance and may lead to the loss or dispossession of assets (ibid). Seasonality is also commonly listed as an external contextual factor affecting livelihood, be it through levels of return for agrarian based livelihoods or food prices for their urban counterparts (ibid). Shocks and trends in insecure contexts may emanate from a variety of sources: environmental, political, economic, climatic and military (Collinson, et al., 2002, Collinson, 2003). They may operate across scales affecting individuals or households (idiosyncratic shocks, for example ill-health), through to larger groupings such as communities or regions (known as covariant / aggregate shocks, such as conflict). Frequency also varies. Some livelihood shocks are cyclical, such as economic downturns, others are stochastic, extreme weather events for example (see Devereux, 2001, Dercon, 2002).

Within the political economy of conflict discourse, context differentiates the impact of the shock of conflict and violence in a number of ways. When violence is geographically specific some households may shift to a state of shock whilst others remain relatively unaffected (Schafer, 2002). Further, as will be evidenced within this chapter, impacts felt may also be dependent upon 'what people own, who they are and where they live' (Jaspers & O'Callaghan, 2010, p. 2). The impact of a shock also therefore ties into the specific vulnerability of households to that shock, which may be differentiated across a particular community. This ties into Devereux's (2001, p. 4) definition of vulnerability how livelihoods experience and are impacted by shock varies as a function of exposure and susceptibility to a threat and its consequences. In this way, the impact of a shock is also tied to resilience; taken in this context to mean the 'ability of the system to absorb change or even utilise change to advantage' (Ellis, 1998, p. 14). For those affected, livelihoods may become 'distressed [with] a dramatic increase in risk and uncertainty' (Korf, 2003, p. 130).

It is important to note that trends and shocks other than those related specifically to conflict and insecurity impinge upon livelihoods within Arrefir and Sahnen, as noted in Chapter 2. Within Sahnen, the specific crop grown by a household reflected changes in the local market for agricultural produce. Whilst within Arrefir, a declining resident population was associated with increasingly diversified and multi-local livelihoods. However given the subject matter of the research it is the implications of the ebbs and flows of insecurity where enquiry is focussed. More specifically, it centres upon the costs and suffering contamination imposes on livelihoods as a consequence of political and military shock. In line with the literature how the shock of conflict and violence resulted in the loss of physical capital through destruction and damage to assets in Arrefir and Sahnen is the first point of discussion.

5.3 Contamination's Costs on Physical Capital

Caution needs to be exercised here. Technically speaking, damage and destruction to assets caused by weaponry during war is not a cost on livelihood associated with contamination. As defined in the introduction the term contamination comprises explosive remnants of war and mines left *after* conflict and violence. However as Reeves (2011) also found when examining the gendered impact of cluster munitions on 16 communities of Nabatieh, technical distinctions are of no import to respondents. Rather, it was 'clear from several of the responses that the cluster munitions remaining in the land are very much seen as part and parcel of the wider problems caused by the war, including damage resulting from bombs at the time of the war' (Reeves, 2011 , p. 27). Reasonably, damage and destruction to assets caused by armaments used during conflict and those remaining after were packaged together in respondents' understanding of how these items affected their lives and livelihoods. For this reason they are included for discussion here.

5.3.1 Undermining Household Assets

Damage and destruction of household assets was a widely reported consequence of conflict and violence. Within Arrefir, in terms of physical capital, damage and or destruction (as opposed to contamination) of residential dwellings listed by respondents as coming from bombs, projectiles, missiles across the years of conflict was a common cost. Although damage or destruction of other assets such as other residential dwellings outside of the village, work machinery or offices was also listed, such instances were much less commonly experienced.

However for some households such impacts were significant. Three households reported the loss of entire businesses in 2006, one located in the village, the others in the cities of Nabatieh and Beirut. Within the latter, US $800,000 was reported as lost in goods and inventory due to the destruction of the family's factory in Beirut. Representative of the multi-spatiality to livelihoods particularly in Arrefir, that will be discussed within Chapter 8, physical capital was undermined across space and time. Whilst the majority of respondents were able to fully restore these assets, for a minority damage still remained at the time of data collection. Contamination of physical assets within Arrefir occurred in a small number of cases; only two households reported that alongside damage there was contamination. Land, namely natural capital, was much more heavily affected by contamination as will be discussed in the subsequent section.

Within Sahnen, similarly the main physical asset of households affected by conflict and violence was the main residential home. However, from this point, the patterns to cost differed. In Sahnen damage and contamination of physical assets was much more temporally concentrated than in Arrefir. All respondents who provided a date stated 2006. Households in Sahnen were more likely to suffer damage/destruction to more than one physical asset. Housing and assets associated with production were the most frequent combination, tied to the village's heavier involvement with agriculture. The residual contamination of the asset alongside its damage and/or destruction was also more commonly experienced.

These findings tie to the wider literature. As detailed in Chapter 4, the effect of the 2006 conflict on physical assets, both public and private, called into question the levels of proportionality in the conduct of war and the degree to which targets were combatant as opposed to civilian. Schools, hospitals, health clinics, factories, roads, bridges, airports were damaged or destroyed, alongside 130,000 housing units (UNDP, 2007, Darwish, et al., 2009). In the field sites the contamination of housing was much more severe than in previous episodes of violence. Public services and infrastructure were also affected: the water pond and surrounding roads in Arrefir and the hussaini, school and roads of Sahnen. However due to the prioritisation system for clearance employed by the UN and LMAC, systems of self-organised clearance within the village, social networks providing temporary alternative shelter, and the capacity of Lebanese public service provision, these effects on physical capital were somewhat dismissed by respondents. This was particularly so in Sahnen. Contamination in and around homes and surrounding public infrastructure certainly required caution and produced fear but there was also pride in how quickly normality was restored; a

point that will be returned to and discussed within the following chapter. Contamination was often cleared in days, at times on the same day as households returned back to the village at the end of the conflict. The constraints contamination placed on agriculture however were regarded much more severely. This point was underlined by Imad. When I asked him about the impact of cluster submunitions on his household, they were dismissed. Rather he drew attention to the impact cluster submunitions had had on neighbouring farmers, that is where in his mind, the consequences of contamination were most pressing: *'If you want to speak about impact you should speak to someone who plants tobacco*' (Imad, male interview date 28 July 2010). Further, concerns for farming were not solely in relation to land, but also to the inputs of production, as discussed below.

5.3.2 Undermining the Inputs of Agriculture

The July-August conflict of 2006 undermined agricultural production in a number of ways, particularly in Sahnen. Most immediately farming inputs such as equipment and stock were lost through direct damage or destruction, or its consequences. Direct hits caused damage and fire amongst crop fields, plantations, orchards and groves. Fruits dropped and rotted or suffered from fragmentation and burn damage. Assets were also lost through enforced absence. Poultry could not be tended and plantation crops of citrus and banana could not be watered. Vegetable farmers also lost their harvest due to lack of watering. Crops of tobacco and charcoal in preparation for sale pre-conflict also perished. Tobacco dried and died as it was not harvested when it should have been, whilst charcoal was lost if the production process could not be completed.

Masen, then a charcoal producer in Sahnen, explained that the loss of a log of charcoal, his main form of employment, had broad implications. At the time, he valued the loss of the asset at 5 million Lebanese pounds (LBP), equivalent to US $2,500. In turn Mazen's household had to take credit to get by, shifting them from a state of self-reliance to one of dependence. At the date of interview in August 2010, a number of years on, this credit was still being paid off. Only once this was repaid would the household start repairing the fragmentation damage from cluster submunitions in 2006. What money he had would be better used to send his son abroad than buy land, the original intention. The damage to the charcoal log then influenced household decision making on work, finances, ambitions and understandings of how livelihood security could best be attained. Beyond issues of safety, the next key priority for

respondents was the re-establishment of a sustainable livelihood. How that was achieved and the workings to livelihood that consequently evolved could vary from their initial trajectories.

Aside from the inability to water crops due to absence, agricultural irrigation systems were also damaged or destroyed which also led to crop deterioration or loss during the conflict and after return through non-watering. Farj, in Arrefir, explained: *'it was four months before the water irrigation system could be replaced, losing about a third of the crop: 60 trees were lost*' (Farj, male, interview date 8 July 2010). Given his orange orchards and olive groves were 20 years old, Farj estimated the loss of each tree to be US $500; equating to US $30,000 in lost assets plus the cost of repairing the irrigation system. Nadim in Sahnen tells a similar story. 3,000 – 4,000m^2 of banana trees were lost in 2006, equating to 50-60 million LBP or US $25,000 – 30,000 (Nadim, male, interview date 3 August 20 10). Indeed the loss of crop, whole or part thereof, was an oft cited outcome. After the conflict in 2006 a key cause of this was the presence or suspected presence of contamination, as discussed below.

5.4 Contamination's Costs on Natural Capital

As noted in the preceding chapter, of the communities covered by the 2002-2003 Lebanese LIS, 306 (22%) were affected by landmines. The main blockage of access caused by contamination, as stated by affected communities, was various forms of agricultural land (NDO, et al., 2003). Agricultural land was similarly blocked in 2006. Out of the 3,897 hectares of land contaminated, 2,596 hectares or 66% was used for agriculture, particularly olive groves, cereal, tobacco and citrus crops. Tyre, Bent Jbeil and Nabatieh caza accounted for over 80% of losses in agricultural production nationally. This has been calculated as a cost of approximately US $8,000 for each of the 3,105 individual producers, against an average GDP per capita of US $5,300 (Landmine Action, 2008, p. 4). As HRW summed up, cluster submunitions 'blocked access to homes, gardens, fields, and orchards' (HRW, 2006, p. 78). Against this wider picture, the characteristics and consequences of contaminated agricultural land in the field sites are detailed below.

5.4.1 Inaccessible and Untended Fields

Within Arrefir, 21 households stated they currently had or previously had contaminated land[34], of which 14 had more than one plot. Plots were both for agricultural and garden use. They were mostly inherited and ranged in size from 500m^2 to 30,000m$^{2.}$ The causes of contamination ranged from landmines, cluster munitions, and other forms of UXO from the 1970s and 1980s. Only in one instance was contamination stated to have occurred in 2006. Most commonly associated with fruit and vegetable farming for self-consumption (cottage farming) and then tobacco and wheat farming as income generating measures, the majority of households stopped using these plots productively due to contamination. Only 7 plots of land continued to be worked and put into agricultural use either partially or fully. Other households stopped using the land, rented alternative land or went into other work.

Within Sahnen both gardens and agricultural plots were also affected by contamination, in total 25 respondents stated land had been contaminated. 10 had more than one plot affected. However, the range of plot size overall was much greater in Sahnen, from 400m^2 to 600,000m^2. Correspondingly there was a greater incidence of staff being hired to work on these plots than in Arrefir. The numbers involved in working the land could be significant; on the largest plots up to 50 staff could be employed at busy times. Contamination was more concentrated temporally than in Arrefir. Contamination overwhelmingly related to the 2006 conflict. Whilst in Arrefir land was inherited, within Sahnen the ways in which plots were acquired was more mixed, with inheritance, renting and purchasing, being the most cited sources. Whilst in Arrefir it was relatively common to have more than one crop or use to a plot, within Sahnen, despite the larger plot size the trend was for single planting. It was therefore plots of bananas, citrus and wheat that were affected by contamination.

The inability to tend crops naturally was felt in terms of production and income as crops died or deteriorated through lack of watering, ripe crops were not harvested and withered and replanting periods were missed. As plots had been unused for such a long periods within Arrefir, with a median value of 30 years, recall on income forgone because of contamination was at best inconsistent. Discerning the costs of contamination on income was possible however for some respondents in Sahnen, given its more recent occurrence and fewer

[34] This includes family land, in which a number of households have joint ownership or use of a family plot.

seasons of production being lost, hence there being more limited fluctuations in the market value of products.

5.4.2 Lost and Blocked Production

Given the presence within Sahnen of large scale plantations and enterprises owned by absentee landlords to small household plots providing the direct income for a family, the amount of land and hence the levels of income lost due to contamination naturally varied. The median value of production per plot of land reported by respondents was US $3,000 per annum. Yet this ranged from US, $1,000 to US $59,000 per annum. US $200,000 was reported to be the yearly value of production by one land agent (farm manager) of a commercial plantation. The median income lost in 2006 was similarly US $3,000. The significance for the household of lost income therefore may be keenly felt.

Size of plot was not the only variable in the value of lost production. Type of crop grown also affected the value of monetary loss. The Ministry of Agriculture provides statistics on crop values and production. Those for 2005 (the year before the 2006 conflict) for the crops grown in the field sites are provided in Table 5-1 below. In terms of value, the loss of land for citrus and bananas through contamination was more significant than other crops within Sahnen. However, within Sahnen crops farmed could be observed to relate to the wealth and establishment of the household within the village. Tobacco, alongside vegetables, were planted by poorer households within the field site due to the lower entry costs, higher value per hectare on small plots, and a larger number of harvests per year hence more immediate returns. Tobacco prices were also fixed by the government, hence poorer farmers could obtain a level of income insecurity, as prices were not subject to market volatility[35] (Landmine Action, 2008). Citrus and bananas crops that require time to mature before good harvests are possible were planted by wealthier households and in large scale farming. Therefore, figures of total loss cannot be directly related to the impact contamination had on household livelihood. Whilst the monetary cost of contamination for some households was lower, the relative loss of this income on household security could be greater.

[35] Tobacco production is also licensed and subsidised. Only pre-agreed amounts can be produced (Landmine Action, 2008)

Table 5-1 Crops of the Field Sites - Values and Yields 2005

Field crops	Price (US $/kg)	Yield (kg per hectare)	Value/hectare (US $)
Wheat	0.26	2,901	754
Tobacco	6.80	1,000	6,800
Legumes	0.42	4,966	2,086
Root veg.	0.15	24,936	3,740
Fruit bearing veg.	0.30	42,491	12,747
Citrus fruits[36]	0.28	23,775	6,657
Bananas	0.49	29,000	14,297
Olive (low yield yr) [37]	0.99	1,302	1,289
Olive (high yield yr)	0.99	2,848	2,819

(adapted from Landmine Action, 2008, pp. 40-41)

In terms of lost or blocked production there were also multipliers to loss. The range of livelihoods within Sahnen that could be affected by contamination on a plot of land was notable. Livelihoods intersected with land in multiple ways. In addition to the landowner there may be tenants, farm managers, permanent farm workers and daily workers. Further, that plot of land may have arrangements with external tractor owners to plough land, bee-keepers to house bee hives or with charcoal makers to cut down wood. Within the mine action literature the impact of contamination on the livelihood of the landowner or primary user of land is focussed upon. Yet it was found that a plot of land may have multiple user and hence contamination may impact upon the livelihoods of a range of households in different ways. Impact in this sense extended beyond the silo of the landowner or primary user. For the livelihoods affected, post-conflict contamination rendered fields or grazing areas

[36] Prices for citrus reported by respondents were higher than those reported above. There were more comparable to bananas. Landmine Action (2008) also noted this contradiction.

[37] Olive yields generally alternate between high yield and low yield years. 2006 was predicted to be a high yield year.

inaccessible, partially accessible, or accessible with risk. The combination of a hazardous environment and heightened vulnerability pushed some, in the language of the DRR literature, into unsafe conditions. Employment patterns within the large scale farms and enterprises shifted due to contamination, as can be seen below.

5.4.3 Shifting Local Markets

Following the 2006 conflict local markets for labour and commodities shifted in Sahnen. Factors underlying these changes in part related to contamination and in part to the broader implications of conflict. Prices changed. For example Munif, a tobacco farmer, sought an alternative 7,000m^2 to farm whilst his normal plot was contaminated. However, prices had increased. As he stated normally: '*1000m^2 [costs] US $100 per year, but with the pressure and competition we rented only 5000m^2 as [the] price had changed to US $160'* (Munif, male, interview date 29 July 2010). Prices and demand for charcoal and food commodities were also stated by respondents to fluctuate post conflict. The ability of contamination to alter local markets is not new. In 1980s Afghanistan, two prices for ploughing land were noted: US $80 per hectare for safe land and US $150 for land suspected as contaminated (Harpviken & Isaksen, 2004). It is not only commodity prices then that may be affected by contamination. Services that involve working in contaminated environments may also undergo change with relation to supply and demand, as emerged in Sahnen.

Supply and demand patterns of farm workers in Sahnen altered in the aftermath of the 2006 conflict. As did the services that they provided. As was noted above, at times large numbers of hired staff worked on agricultural plots within Sahnen. These changes related to a specific sub-sector of the agricultural labour force: daily workers. Daily workers were employed on an ad hoc basis in the plantations and family farming plots. Employment was casual and as the name suggests they were paid a daily fee. Within the respondents interviewed in Sahnen, daily workers constituted a vulnerable household group. They included individuals who had relocated to Sahnen from Palestine or villages on the Blue Line. Ordinarily, there was competition for daily labouring. Daily work was also undertaken by Syrian migrants and Palestinians. This was a point of contention within the village. Employers were happy with the increased competition leading to downward pressure on wages; Lebanese daily workers objected to their wages being undercut.

Post-conflict, within Sahnen marginally more households continued farming contaminated land, either partially or fully, than stopped. For some this also entailed the use of daily workers[38]. For those wishing to hire, contamination brought frustration. The supply of labour altered. On expanding upon the loss of half of his crop and the two years it took to regain full production, Samir, a farmer, commented: '*no worker would come for the work until it was cleared, nobody went there no matter how much you pay them*' (Samir, male, interview date 30 July 2010). Fayez expressed similar sentiments: '*The worker took time to gain confidence to go back on the land. I was trying to hire workers but wasn't able to. It was a common problem; the farmers used to discuss the problem over a cup of tea. The worker doesn't even need 1 million if it will endanger his life. All of us lost*' (male, interview date 26 July 2010). They all lost because not only did the production and income of the employer suffer, but the daily worker lost an often much needed wage.

The presence of contamination led to difficult decisions for daily workers, to continue to work, to stop and face the consequences of an undermined income, or to allow only some in the household to do such work. One daily worker reasoned: '*it is OK for the father to die but not the son*' (resident of Sahnen, male, interview date 23 July 2010). As in the Afghanistan example above, daily wages responded to the changes in demand and supply, and the risks involved. Amounts varied farm to farm but increases were reported to be in the range of additional 5,000-10,000 LBP per day (US $2.5 – US $5), more if clearance or specific jobs were undertaken such as collecting valuable farming assets from contaminated land.

The above discussion highlights two points: Firstly, it illustrates how livelihoods are intimately relational, constantly being reworked in response to each other. Secondly it underscores the relationship between need and risk. It was no coincidence that employers and Lebanese daily workers reported that it was Syrians and Palestinians that helped fill the demand for these roles, sometimes to the detriment of their own ability to get work. In this sense it was the most vulnerable and needy that worked in the hazardous environment: A finding that corresponds to the wider DRR literature and that of mine action. As Benini et al (2002, p. 85) found in South East Asia: 'Farmers in northeastern Thailand, for example, themselves poor, have some of their land cleared by Khmer from Cambodia, who are even poorer and are

[38] Other farmers stopped the employment of non permanent staff until checking and clearance had occurred on contaminated land.

desperate for wage work'. The cost of contamination on natural capital then had localised knock on effects on wider circuits of production and with it the reproduction of vulnerability.

5.4.4 Established and Suspected Contamination

It is important to note that the costs associated with contamination discussed above and the extent to which production areas were rendered inaccessible, was due to not only the established presence of contamination, but the possibility of it. Within Sahnen and Arrefir, suspicion and fear of contamination amongst respondents left fields untended, even when that land was not or had not been affected. Ziad, from Sahnen, was one such respondent. Despite only leaving the land for one month he lost US $7,000 in lemon production; the crop for the year and his primary source of income for the household. In an archetypal example of the trade off in securities vulnerable households in hazardous environments have to undergo, it was fear of contamination that led to the loss of the household's annual income, and fear of no work that led him to re-enter his land, after some reassurance. As he stated: '*The economic situation is bad. [There is] always fear. Fear of contamination, fear of no work. After one month I returned to work. I was afraid to work on my land up till this point. Some people from the village checked my land after a month. I wouldn't go into the land before this*' (Ziad, male, interview date 29 July 2010). Risks across livelihoods as a whole are balanced against each other. This was a point Naji also illustrated. Growing vegetables to supplement his income was one line of work amongst a number that Naji undertook. Despite his land being cleared quickly (within 20-25 days) he did not feel confident about the clearance. Consequently he left the crop untended: '*[I] left it for a year without tackling it: losing another season of crop'.* In his view, adopting the cautious approach, leaving land and dealing with the consequences were better than running the risk of injury. With limited security the risk of injury posed much greater risk: '*my life would be completely destroyed. Look at all the damage incurred and no-one helped me. What would happen if [I was] injured?'* (Naji, male, interview date 28 July 2010). It is not therefore just the established presence of contamination that leads to costs to natural capital, but suspicion of it also.

5.5 Contamination's Costs on Human Capital

In the preceding chapter, Goodhand's (2001) discussion of the costs of conflict on human capital in terms of the three 'ds' was noted: death, disablement and displacement. It was

conflict more than contamination that was associated with displacement in the field sites. However costs to household livelihood from contamination in terms of death and disablement were evident.

From the period 1975 to June 2009, there were 3,857 casualties due to contamination in Lebanon, comprising 960 killed and 2,897 injured (ICBL, 2010a). Data for the presence and patterning of incidents from contamination in the period following the civil war is much less widely available than that of the 2006 conflict. However, from the LIS for Lebanon 2,259 victims of landmine and UXO incidents were identified. From this 742 died and 1,517 survived with a disability (NDO, et al., 2003, p. 58). In the month following the cessation of hostilities in 2006, an average of 3-4 instances of death or injury occurred each day due to unexploded cluster submunitions (LMAC, 2008). Up to May 2009 there were 272 causalities from contamination from the 2006 conflict. Over the same period there were 57 incidents of death (14) or injury (43) amongst international and national demining staff clearing this contamination. This includes 16 staff from MAG Lebanon, two of whom were killed (ibid).

As part of this broader picture, a number of households related contamination accidents affecting family members of all ages, some of whom were killed. Within Arrefir accidents involving Israeli and Palestinian soldiers were also reported. Five survivors of accidents involving landmines and cluster munitions were interviewed. These respondents were either injured in the field sites, or lived in the field sites and were injured elsewhere. It is their testimony, circumstance and drivers to behaviour, along with the wider literature on victims and survivors of accidents that forms the basis of this section.

5.5.1 At Risk Groups

Studies across Afghanistan, Cambodia, Mozambique, Bosnia and Eritrea draw a general profile of the victim or survivor of incidents involving contamination, being that of economically active men and children (Andersson, et al., 1995, Byrd & Gildestad, 2001, Bilukha & Brennan, 2005). At times the figures can be stark. Both Bilukha and Brennan (2005) and Byrd and Gildestad (2001), highlight that in Afghanistan over 90% of casualties were male. Hanevik and Kvåle (2000), reporting on Eritrea, similarly detail that 90% of the 223 victims undergoing surgery in their study were male. Some 41% were aged under 15 and a further 22% were aged 15-19. With adults, occupation was regarded as a key factor in determining risk. With children, playing with ordnance, tampering and involvement in

household activities such as herding significantly raised risk. Within the literature therefore, a differential vulnerability to risk posed by contamination is evident.

Turning to Lebanon and the field sites more specifically, similar trends can be observed. At the time of the LIS, 97 of the 108 casualties recorded were male. Herding, playing and tampering, alongside picnicing and walking, were the three key activities involved in civilian accidents (NDO, et al., 2003). All of these activities were associated with the survivors directly interviewed in Arrefir. Within Sahnen, two male youths involved in cluster submunitions accidents in 2006 whilst farming, also fitted the accepted profile. Between August 2006 and May 2009, 265 of the 272 casualties of cluster submunitions and UXO in South Lebanon were male: 18% were under 13 years; 22% were 13-18 years; and 60% were over 18 years (UNMACC, 2009). In line with Sibai et al (2000) who assessed 282 non-fatal war casualties in South Lebanon following the Israeli Grapes of Wrath campaign in 1996 primarily injury was to lower limbs. There was leg amputation or permanent damage in all five cases.

5.5.2 Casualty Risk and Time

There is similarly resonance with the literature in the timing of accidents. Within the field sites, accidents cluster to the months immediately following hostilities and periods of return both during the civil war and in 2006. In Arrefir civilian accidents peaked in 1982, when landmines were first laid within the village and the IDF and SLA took up ground positions. Moulton and Benini (2003, p. 959) explain the correlation between the laying of landmines in the previous 24 months and occurrence of incidents amongst 249 mine affected communities in Chad and 530 in Thailand: 'In areas of comparatively recent conflict, the populace may not yet have had sufficient experience or accumulated knowledge as the precise location and extent of the minefields'[39]. In addition there was the ability and freedom to access areas previously inaccessible due to conflict (Hanevik & Kvåle, 2000). This was echoed by the respondents in Arrefir, all victims of landmines. Recently returned, they '*didn't know about contamination in the village* (Wael, male, interview date 12 July 2010). There were '*no minefield markings*' (Nadia, female, 12 July 2010). In recalling the event of his accident, when just a teenager, one survivor of a mine accident captured their naivety:

[39] Other community level risk factors include distance to the nearest community with victims and population size, and in certain instances blocked water sources (see Moulton and Benini 2003 for full discussion).

> *'Returned in 1983; I was 14 at the time. My house was destroyed, my father was a butcher and [we had] 10 goats by this point. I was looking after the goats and kids were playing football, so I joined in. Everyday the children were playing football …I joined in and the accident happened. The children ran towards me shocked; [we] didn't realise that it was a mine'* (Resident of Arrefir, male, interview date 12 July 2010).

Here contamination was an unknown. Unknown in terms of its presence, location and the risk it posed, particularly for children. In Sahnen however, quintessentially respondents' narratives did not centre on unknowing. Mohammad *'knew about the risk - the bomb exploding with a fork*' as he worked on a plantation where *'each step there were clusters – clusters were everywhere*' (Mohammad, male, interview date 31 July 2010). Within the community as a whole there was understanding and awareness of what contamination was and what it did, that was formerly lacking in Arrefir. In Sahnen contamination was primarily engaged with knowingly. Whilst time and the unknowing therefore account for some of the patterning to contamination accidents, it may not account for all. Instead other systematic considerations of exposure to risk require examination. This point will be returned to later in the chapter.

5.5.3 Accessing and Costs of Care

Walsh and Walsh (2003, pp. 665-666) argue that the incidence of landmine mortality may be under reported due to difficulty or inability to access appropriate care: 'For 25% of victims, hospital care is up to six hours away; and 15% of victims must travel for more than three days to reach the hospital'. It is noteworthy that all respondents directly interviewed were able to access care immediately. Vehicle access, proximity to family and friends to help with transportation, the locations of the accidents being in the hinterland of cities, and levels of medical care provision in Lebanon (and Israel in the accounts for some) were all enabling factors. Two of the respondents injured in Arrefir were involved in a multiple accident, whereby one was injured trying to save the other, and an Israeli soldier was then injured trying to save them both. In an example of stretched out geographies and the transnational networks of conflict and violence, all were transported by helicopter to Israel where they received care. As Nadia stated: '*They treated me very well in Israel even though they are Israelis*' (Nadia, female, 12 July 2010).

Once care was accessed the nature of the injuries could lead to substantive medical costs to meet the emergency, rehabilitation and ongoing care requirements. In Andersson et al's (1995) study of 38 communities in Cambodia, 61% of victims resorted to debt to cover medical costs associated with their injuries. In the 37 communities accessed in Afghanistan, the figure was 84% amongst residents and refugees (ibid). There is also longevity to such costs and their implications. In Cambodia and Kurdistan, a study of 57 survivors demonstrated a positive correlation between the economic impact of the injury and post injury pain (Husuma, et al., 2002).

Due to the provision of health care respondents accessed in both Lebanon and Israel, emergency care costs were not as significant a concern as ongoing care. When reported on, emergency care was noted as free in entirety or to a significant extent. Ongoing costs of rehabilitation and care however brought comment, especially from those injured during the civil war. One respondent borrowed money to travel to Germany to receive treatment and a prosthetic limb. However he was able to repay it within 18 months. Another commented that the extended family covered the costs of scheduled and regular hospital treatment, and operations that are required every two years were covered by the municipality to 90%. Levels of household social and financial capital could then influence access to care and the ability to withstand periods of unemployment during recuperation. As one survivor stated: '*I just wish that my leg cures and I don't have to change the bandages everyday. I have five children. Three months off work! I am concerned not only about the costs for food etc and covering these costs it is about the ability to get other work afterwards - job situation is bad*' (resident of Arrefir, male, 12 July 2010). In this instance, disability and the medical care it necessitated brought with it consequences for household security, as discussed below.

5.5.4 Productive Capacity and Income

Across the literature, the undermining of household security associated with contamination incidents is readily found reflected in reduced levels of production and income. In Cambodia and Kurdistan, 85% of study respondents reported lower incomes post-accident (Husuma, et al., 2002). Among 32,904 households in Afghanistan, Bosnia, Cambodia and Mozambique, 'households with a mine victim were 40% more likely to report difficulty in providing food for the family' (Andersson, et al., 1995, p. 719). In Lebanon's LIS, one of the most noted findings amongst casualties post incident was the increase in numbers not working (NDO, et al., 2003). Similarly, consequences on household production and income resulting from injury

were noted by the respondents. Two respondents lost work, two respondents changed what they did or their aspirations, and the work situation of the last respondent remained unchanged. In line with the literature, generally there was reduced productive capacity within the household. As Mohammad commented: '*Now I don't do anything; the family have lost my income. I used to buy the food needs for the house and what was left over was mine*' (Mohammad, male, interview date 31 July 2010). Ahmed, who with external support changed profession to enable him to continue to work, noted that although he preferred his new role, his income had dropped by 50%. Indeed it was only in one instance that work and income did not change, reflecting the influence of occupation type at the time of the incident as to the future outcomes of casualty on livelihood security.

It may not just be income that is affected by injury but asset base, as found by Andersson et al (1995) when analysing how medical costs were met. Further if the asset being depleted links back to occupation, then outcomes for the household could worsen. Nadia commenting on her accident noted the downward spiral in her household circumstance following her accident:

> *'I used to plant … for goats to feed on and [I] milked the goats and took the milk and yoghurt to Nabatieh to sell … I haven't worked since the accident. I didn't want my school age children to stop their education to take this over, so we didn't replace the work that I lost... We did have 300 goats and their kids. 15 Lire for one goat. But when my husband was arrested, which was after the accident for 10 days, [the] goats couldn't be fed. I couldn't look after them, [the] children [were] at school and [my] eldest son already earning. [we were] left with a few that stayed alive and generation after generation we now have 15...This is the only form of income, except for my 3 sons who each give US $100'.*
>
> (Nadia, female, interview date 12 July 2010)

Walsh and Walsh (2003, p. 668) note that: 'each member of a family tends to play an important role in day-to-day survival of the group; the existence of the entire family may therefore be threatened by the injury of one member'. In the instance above, the household survived. Yet, income and assets were traded to protect priorities; in this case the education of children. In doing so, roles and responsibilities within the household shifted. There was transformation in livelihood for one of the original breadwinners to a state of dependence

though a snowballing of effect. The undermining of human capital within the household, and with it productive capacity, led to shifts in livelihood trajectory, assets and security.

As can be seen from the above discussion, in line with the broader literature, the social profile of survivors and timing of accidents fit established norms. Accidents and injury brought costs to livelihood in terms of reduced income and the ongoing need to access medical care. In Chapter 2, it was stated that: 'The transformations that conflict brings about in the wider political economy are mirrored in varied, profound and often irreversible changes in people's lives at the local level' (Collinson, et al., 2002, p. 10). The discussion above helps shed light on the costs and suffering to livelihood as a consequence of contamination. The physical, natural and human capitals of households were affected and undermined.

Yet, the above discussion is incomplete. The impact associated with contamination went beyond livelihood to issues of well-being. Further, how impact resonated with concepts such as vulnerability, risk and political relations warrant further attention. This is the focus of discussion in the following section.

5.6 Unpacking Contamination's Costs Within and Beyond Livelihoods

The discussion on the costs and suffering of contamination above has been framed within the material considerations of livelihoods. It has focussed upon capitals and assets. The discussion below seeks to broaden such considerations. It examines how impact resonates with other areas of literature introduced within the nested approach to livelihoods in Chapter 2. Three areas of literature are drawn upon to this end: well-being, DRR and post-colonialism. Discussion also engages with literature from critical geo-politics.

5.6.1 The Emotions and Feelings of the Corporeal

In following on from the discussion on human capital above, for survivors of mine or cluster submunition accidents, alongside physical and material consequences there were also implications for well-being. Within the mine action and medical literature the social and emotional considerations of death and disability associated with accidents receive less attention than those of production, medical costs and so forth, discussed above.

Andersson et al (1995) do provide data and commentary on changes to relationships in the family (affecting 25% of survivors) and workplace (affecting 45% of survivors). They found feelings of rejection, desertion, depression, embarrassment and loneliness amongst those affected. Respondents whilst not commenting specifically upon such issues in their interviews did make links between their accidents and its effects on their hopes, frustrations and decisions regarding the future. In sum, effects on well-being, as opposed to livelihood, were also raised. Some actions were life-affirming and positive. As highlighted above, Nadia took the decision to make sacrifices to protect the long term interests of the household. Similarly, after the accident Wael determined to go to Hajj and successfully fulfilled his plans, whilst another respondent's family in Arrefir expressed determination to remain on their land irrespective of what had occurred and did; this is an issue that will be returned to in Chapter 6.

Some testimony however demonstrated regret or even guilt. For the four respondents whose work changed due to their accidents, there was a sense of remorse and responsibility for the family losing their income: for not contributing as they did previously. There was also a sense of a loss of innocence and freedom: '*the existence of the cluster bombs is like the existence of the war. You cannot play, you cannot walk barefoot like you used to*' (Ahmed, male, interview date 27 July 2010). There were, finally, expressions of regret and loss for a future that would not be fulfilled: '*The accident made me lose my youth...I thought of the many things I could have done if I hadn't been injured… I would have joined the army... I would have liked to be in the Army*' (Resident of Arrefir, male, interview date 12 July 2010). Thus whilst such changes in circumstances due to injury may appear accepted, emotions of regret, loss and a robbing of aspiration were, in these instances, also present.

5.6.2 Geographies of Fear

The impact contamination had on well-being was also felt in terms of the fear it produced. As Daifa noted: *'Lots of people escaped from death by leaving the village, because of the conflict, and then came back to death because of the mines'* (Daifa, female, interview date 14 July 2010). The principal terms associated with contamination by respondents, across both field sites, included 'worried', 'frightened', 'afraid', 'fear', 'danger', 'harmful'. In line with the findings of Reeves (2011) these emotions were not just centred upon the individual or family, but the broader community: '*You are always worried about the villagers here; they are your*

friends, relatives, neighbours, sons' (Adib , male, interview date 7 July 2010). Concern was also expressed in relation to specific groups: children, younger generations and visitors, whose knowledge on the risks contamination posed or the location of suspected land was thought incomplete or less well understood. In short, contamination produced a geography of fear. The literature associated with geographies of fear, specifically women's fear of crime and fear, critical geo-politics and the war on terror, provide insight here.

The literature on women's fear of crime highlights how anger, sadness and contempt to crime were accompanying emotions to fear (Pain, 2010). These emotions also accompanied fear of contamination in the field sites. Further it draws links between fear and the use of space. More specifically it highlights how the perceived threat of harm could lead to the total or partial avoidance of space (Valentine, 1989, Pain, 1997, Pain, 2010). As with fear of crime, fear of contamination 'cuts across different places resulting in self-or forced exclusion' (Pain, 2010, p. 232). Moreover, when space was used it was frequently associated with an 'assiduous state of vigilance and the deployment of well developed coping strategies' (Pain, 1997, p. 234). The association of fear of crime with space led not only to its negotiation and behaviour change but a differential experience of environment (Valentine, 1989). Similar attributes accompanied the fear of contamination with space. Fear of contamination went hand in hand with behavioural findings that will be discussed in the following chapter: changed patterns of movement, curtailed leisure activities, staged returns, moving with heightened state of awareness and so on.

However, beyond this, the geography of fear associated with contamination linked to issues of power and politics. Just as fear of crime is argued to link to patriarchy (Valentine, 1989) (Pain, 2010), so fear of contamination and the negotiation of space it produced acted as a 'spatial expression' of dominant political relations (Valentine, 1989, p. 389). With contamination came an appropriation of power and political capital in the field sites. This links discussion of the impact of contamination to contemporary concerns of the production/reproduction of in(security). Focussing upon the 'Geographies of the War on Terror', Ingram and Dodds (2009, p. 8) seek to draw attention to 'the ways that security takes place and is played out across and through space, via feedback, interplay and mutual constitution between violence, the politics of security and diverse landscapes'. The use of contamination could be argued to comprise one such security practice. Where contamination was present, or suspected, space was being 'used, occupied and controlled' from afar (Valentine, 1989, p. 389). As is argued within the literature on critical geo-politics, the

generation of security/insecurity is highly spatialised (see Dalby, 2011, Fluri, 2011, Philo, 2012). Fluri (2011, p. 281) notes that: 'Within the bounds of a conflict, security becomes decidedly a spatialised and significantly contentious issue'. Further, this is not only across space but within the space of a particular locale. Thus whilst: 'It is all too easy for "big-S" Security concerns to crowd out seemingly more mundane matters of "small-s" security ...these two facets of S／security cannot but be closely inter-linked' (Philo, 2012, p. 2). As such contamination can be seen as a product of the interplay between security/insecurity concerns at larger and broader scales. Yet it also generated or reproduced (in)securities at the levels of the community, household and individual much wider than that of contamination alone. The responses to the presence of contamination that emerged in the field sites in turn, linked the minutiae of everyday practices (and the acts of resilience and resistance they may entail) with more macro-scale concerns of defending homeland, nationality and sovereignty. These themes will be explored in Chapters 6 and 7.

Contamination not only led to how space was negotiated on the ground, it was itself the subject of negotiation within households. It was negotiated between a parent and child as to where or where not they may play, or a husband and wife as to working in the fields. In some instances it led to edicts and to compromise. It also led to untruths, where the aim was to shelter others from fear or concern when risky behaviour was being pursued: *'My wife didn't know we gathered together about 80 - 100 items, in order not to make her afraid or concerned'* (Cemal, male, interview date 26 July 2010). Contamination then not only meant geographies of fear, and with it acts of political submission, were manifest and integrated into the everyday. It also intersected with the heterogeneity, discord and bargaining behaviour of households (see for example Blunt & Dowling, 2006, Brickell, 2012a). In this sense, the impact of contamination resonated with the organisation of social and political relations at different scales. This theme also runs through discussion in the following sections.

5.6.3 Vulnerability, Livelihood Security and Known Risk-Taking

There is a wide ranging literature on the relationship between hazard, risk and vulnerability. At its core is the position that differing vulnerability to hazard generates different levels of risk and impact of disaster (Blaikie, et al., 1994, Wisner, et al., 2004). An accepted position within this discourse is that vulnerability leads to risk behaviours. Behaviour in contaminated environments is no exception to this. Studies in village demining and resource gathering in Cambodia, farming in Afghanistan, and collecting food, water and firewood in Angola, all

highlight how households and individuals balance the risks posed by contamination with other risks faced by the household, such as lack of food security. This leads to the entering and use of contaminated areas (Andersson, et al., 2003, Bottomley, 2003, Harpviken & Isaksen, 2004). Lack of livelihood options, long term exposure to conflict and former combatant experience have all been identified as supporting risk behaviours in contaminated environments (Millard, et al., 2002, Bottomley, 2003).

An interview with a village deminer in Cambodia exemplifies some of the considerations above. 'I would like to stop clearing mines and look for work in Thailand but now the border is closed and so I have to work in the minefields again. If I don't do it my stomach will be empty' (Bottomley, 2003a, p. 827). Within Sahnen, similar sentiments were expressed by one daily worker on the risks he took working on contaminated farms. '*I am a daily worker; if I don't work I don't eat'* (resident of Sahnen, male, interview date 23 July 2010). Ahmed, the survivor of a cluster bomb accident, also explained his work on uncleared land in relation to meeting need: '*you can stay without work if you wanted, but if you need money you have to work*' (Ahmed, male, interview date 27 July 2010). In concurrence with the literature, in Sahnen lack of livelihood security in terms of access to assets to meet contingency needs at this time of difficulty led to exposure to risk. Hazard in this sense was 'socially structured' (Benini, et al., 2002, p. 84). There was a social patterning to risk. Vulnerability was central to understanding this behaviour. Vulnerability drove respondents to increase their exposure and susceptibility to risk. For those whom increased exposure led unfortunately to injury, household security could be even further undermined through composite shock to livelihood.

5.6.4 Contamination and the Presence and Absence of Protection

However, within Sahnen, other factors also led to risk behaviours. Rather than being associated with material need and vulnerability, they related to well-being, namely values, beliefs and perceptions. This was specifically around the issue of protection.

Within the literature, although not identified as such, instances of deliberate acts to protect livelihood assets can be found, irrespective of risk of exposure to contamination. In Cambodia, settlers on unclaimed mined land purposefully left mines to reduce the risk of seizure (Bottomley, 2003a). Likewise Cambodian village deminers were found to clear only small areas of land to deter former owners from seeking repossession (Skåra, 2003). Here everyday engagement with contamination results from household strategies to protect

assets. In Sahnen, decisions to enable oneself and others to enter fields where contamination was present or suspected occurred not only in the trading of livelihood securities, as detailed above, but from an emotional rationale grounded in protection. There was an attachment to the crop expressed that had at times been cultivated over many years, or decades. Hussein a land agent explained: '*There is responsibility I took in putting them in that position. But there was no other option; no way I would have left it. The crop had already gone for the season but I had to save the trees. I had worked on it too long: It is my life*' (Hussein, male, interview date 29 July). It was not just work and income. The trees embodied something more significant, deeper, for Hussein. They were his purpose. He had invested in them. He felt attached to them, for what they were and what they represented to him. Mansour expressed similar sentiments. An elderly farmer, Mansour continued to work in his contaminated fields before formal clearance commenced, despite the concerns of his family. Any cluster submunitions he spotted he would set to one side. His aim in taking these risks was to ensure plants were watered, he said simply: '*All my life this is all I have. I live from this. It is my only income. It gives me life*' (Mansour, male, interview date 30 July 2010). Income is a consideration in this weighing up of risk. Yet, there was also an emotional resonance that went beyond material considerations of livelihood and stood behind the risk behaviours of some, exemplified by Hussein and Mansour. The priorities and perspectives of non material drivers to behaviour, as accounted for in understandings of well-being, have purchase and resonance here. Further, this is not just in individual perceptions, but how they constitute (or contest) the wider values, morals and beliefs within a given community. Seen in such a way, the actions of Mansour and Hussein can be placed within wider acts of resistance that were found within the field sites. These acts, embedded within the concepts of home, homeland and Other, led to knowing, proactive engagement with contamination. This will be discussed in Chapter 6.

Bottomley (2003a, p. 824) notes that 'in contrast to their usual depiction as passive victims, communities affected by landmines are in fact active subjects, dealing with their own situation on their own terms'. Exposing oneself to risk and providing clear information to others to allow independent decision making on their own risk behaviour, as above, is one manifestation of this. However, how contamination was dealt with in Sahnen, also reflected in part power, and in turn, a lack of protection and vulnerability of others. Although an exception rather than the rule, one daily worker, reported he entered fields before the owners. Misrepresentations, half-truths and misunderstandings of what clearance had occurred, if at all, were also reported amongst daily workers. The contamination and clearance status of sites was not always fully transparent or could be confusingly relayed. As

Ahmed commented, they said '*it is "clear" not that it is "cleared"'* (Ahmed, male, interview date 23 July 2010 emphasis added). With regard to Syrian daily workers, one deminer noted that their awareness of contamination, and its risks, could be limited: *Once [I] had two Syrian workers come with live munitions in their hands, [they] didn't realise what they were. [They were] trucked in everyday from Tyre*' (male deminer, Nabatieh, interview date 22 July 2010). In one instance, even within a family, there were charges of alleged misinformation:

> *My nephew convinced me, told me, 100% it was cleared... [When I] saw the top of the shell I asked about it and my nephew explained it was just the top and the rest had exploded. [I was] about to hit it with a shovel and thought had better check. MAG [were] working 200m [away] – so [I] called them over. [They] said the land hadn't been cleared and [I] should leave and not work there*'.
>
> (Mahmoud, male interview date 27 July 2010)

Whilst some of these instances may be accounted for on grounds of confusion over the status of clearance, or misunderstandings of the types of clearance performed, at other times they appear to be either oversights or deliberately misleading. Local systems of protection in this sense appeared absent. However protection is not just a local issue. The literature draws attention to issues of protection, or lack of protection, operating at much larger and wider scales, with the deployment and patterns of use of such weaponry being linked to bare life and spaces of exception.

5.6.5 Contamination, Bio-Politics and a Reduction to Bare Life

Within the literature on Lebanon's conflicts more broadly, are numerous accounts of deliberate attacks on civilians and specific instances of unlawful killings. Within the literature on the conflict in 2006 specifically there is reflection upon excessive use of force and a blurring of the boundaries between legitimate combatant, terrorist and civilian by the IDF and Hizbollah (HRW, 2006, HRW, 2007a, HRW, 2007b). Given the consequences of contamination, as set out above, an argument can be made for the disproportionate weight of costs and suffering being shouldered by civilians in the post-conflict landscape. Going further, the blanket use of cluster submunitions across areas of Lebanon in 2006 and the undermining of livelihoods and well-being they gave rise to, provide grounded examples of reduction to bare life and spaces of exception (Agamben, 1998 and 2005). As noted in Chapter 2, there was an 'erasure of corporeality' (Gregory, 2006, p. 24). The post-colonial

literature provides useful insight here. As Sylvester (2006, p. 66) notes: 'whilst development studies may overlook the regimes behind the outcomes of "injury, suffering, death" it seeks to ameliorate and respond to, it is within the postcolonial that such bare life is writ large and clear'.

With regard to colonialism and imperial intentions in Afghanistan, Iraq and Palestine, Gregory (2004, p. 11) notes: 'what else is the war on terror other than the violent return of the colonial past, with its split geographies of 'us' and 'them', 'civilization' and 'barbarism', 'Good' and 'Evil'. Moreover, with reference to different forms and locations of violence across the North and South – Nazi Europe, Cambodia, Iraq, Rwanda, and 9/11 – he argues it is insufficient to consider the geographical imagination in the production of violence alone. This needs to be accompanied by consideration of the next step. Namely how violence is understood and responded to, or not, which again links back to the production of the Other (ibid). Sylvester (2006) picks up on this point in integrating the work of Agamben with Patel and McMichael's (2004) post-colonial perspectives. She argues that colonialisation facilitates the uptake of a 'normal state entitlement of exception' and in turn 'the "right" to create a range of people that can be killed by the state for a variety of exceptional reasons', set against a backdrop of weak international condemnation or condemnation that lacks bite and provides no deterrent (Sylvester, 2006, p. 69).

The response to violence was picked up on by respondents. Contamination was not only a legacy of conflict detached from its past, as commonly situated in the mine action literature. Rather, contamination brought the past to, and into, the present. Moreover, contamination's links to threat and Other went beyond acrimony with Israel. Some respondents connected contamination to the wider geo-politics of the region. Contamination was not simply viewed by some respondents as just contamination. Instead it represented the arms manufacturers, arms suppliers and international political alliances that went beyond the direct protagonists of war. As Zaina summed up: '*I have a lot of anger in my heart for those who manufacture, who finance, who transport, and who use [the] items' (*Zaina, female, interview date 10 July 2010*)*. Contamination was not just the responsibility of its end user, but of an international network of actors and stakeholders that created, facilitated and/or endorsed its use. The very presence of contamination and the enabling structures that facilitated its presence therefore signalled respondents' political powerlessness. There was a lack of representation. There were no successful international interventions on their behalf to prevent or halt its use.

Contamination therefore inherently positioned respondents within a much wider geo-political frame. Further, it not only positioned them counter to a much broader Other, but indicated the marginality and vulnerability of that position. There is acknowledgement within the literature of the use of biopower and violence (including limiting movement) in the control of citizens (see Alatout, 2009, Fluri, 2011). The presence of contamination in their villages and on their land then raised questions for some. Contamination distilled down to a failure of the international system to offer safeguard. The terms '*criminality*' and '*terrorist work'* were used to describe feelings about contamination. This linked back to respondents' perception of a lack of proportionality in the conduct of war. As noted in Chapter 4 this was also commented upon by the UN and international observers. The randomness and indiscriminate nature of the weaponry was also noted. As Nasif and Salim commented; it was a '*genocide against us and our children and our children's children'* (Nasif, male, 1 July 2010); *'these clusters don't affect the resistance, [they] just affect children'* (Salim, male, interview date 22 July 2010).

As detailed within the literature, recent developments within global politics have led to the incursion of the military into the everyday (Fluri, 2011). The presence of contamination continued blurring of boundaries between combatant and civilian beyond the bounded time of conflict itself. This had material and corporeal consequences. There was a failure to protect and a reduction to bare life. Whilst such violence has been linked to spaces of exception, here the exceptional became the unexceptional in terms of presence and frequency, if not in terms of impact on lives, livelihood and well-being.

5.7 Concluding Comments

In Chapter 2, it was noted that it was not just differential vulnerability to conflict and violence that should concern us, but also differential vulnerability to the *outcomes* of conflict and violence. As the first of the empirical chapters to this thesis, Chapter 5 has sought to drill down thematically and geographically on the preceding discussion. It has considered the impact contamination, as one outcome of conflict and violence, has had on livelihood in Arrefir and Sahnen. More specifically, it set out to examine the suffering and costs to livelihoods that were experienced as a consequence of contamination.

Drawing the discussion back to the research questions outlined at the onset of the chapter, a number of points can be concluded here: If vulnerability is associated with exposure and susceptibility to risk, contamination unsettled and reworked vulnerability within the field sites. The very presence of contamination heightened the risk environment for the two communities. Through their habitation of shared, contaminated, geographic space it could be argued that vulnerability increased as a function of heightened exposure to risk. In 2006 in particular, cluster munitions were ubiquitous: roads, gardens, worksites, homes and public infrastructure were all affected. With their presence, came increased risk, and with that vulnerability. However, this position can be further refined. Specific traits of households made them particularly susceptible to the risk of contamination. Here 'susceptibility to be harmed' was heightened (Adger, 2006, p. 269). For example, within Arrefir, lack of knowledge about what contamination was or its whereabouts, placed respondents, often returning to the village after periods of lengthy displacement, at heightened risk. Within Sahnen, work within agriculture had a similar effect. The composition and trajectories of livelihood, and situating those livelihoods within historical context, delineated contamination's impact. Further, across both field sites, the differential ability of households to absorb (at times composite) shock acted as both driver and outcome of vulnerability. The relationship between vulnerability and risk worked in both directions. Material need placed respondents knowingly or unknowingly in risk environments, as households traded various forms of livelihood security. There was therefore also a social patterning to vulnerability associated with contamination.

The above links into the research questions considering livelihood security and how the impact of contamination may be differentiated between sub-groups within a community. To deal with the former; contamination weakened household security in a variety of ways. Given how livelihood security links to 'physical safety, and reliable access to resources, food and income and basic services' (see Chambers, 2004, pp. 10-11), most immediately, physical safety was compromised. Moreover, for those whom risk led unfortunately to injury, livelihood was affected through composite shock including a reduced asset base, reduced income and lost productive capacity within the household. Enforced absence through (suspected) unsafe land, alongside damage and destruction to assets caused by armaments used during conflict, also adversely affected household resources, food and sources of income. Impacts on livelihood were then felt in terms of weakened natural, physical and human capital post-conflict. Contamination eroded the household's asset base and blocked production. It rendered fields or grazing areas inaccessible, partially accessible, or accessible

with risk. The erosion of assets was for some respondents significant, either in terms of monetary value or contribution to household income. For some households self-reliance turned to dependence. Whilst for those unable to meet contingency need and ease shock through existing assets, also elements of livelihood security, vulnerability drove the adoption of risk behaviour as noted above. In this sense, examining the impact of contamination on natural capital in particular should not be confined to the silo of the landowner or primary user, as often reported within the mine action literature. Within Sahnen, where on the largest agricultural plots up to 50 staff could be employed, knock-on effects were felt amongst daily workers, as well as tenants of rented land. Multiple livelihoods could intersect with a plot of land. Hence the impact of contamination could spin out, affecting multiple households and individuals in different ways.

When considering the costs and suffering of contamination on livelihood, vulnerability and livelihood security, what emerges from the data is variance between community groups, households and individuals. Chapter 8 focuses upon the factors that can delineate the impact of contamination and clearance on livelihood. Yet suffice to say at this point, impact was differentiated as it journeyed downscale. Shared geographic, contaminated, space heightened vulnerability through increased exposure to risk more generally. Yet, susceptibility risk factors helped delineate contamination's impact on livelihoods at a household or individual level. For example, occupation shaped impact. It influenced susceptibility to risk. Moreover, occupation influenced the potential for productive capacity to be lost within the household should accidents occur. Occupation also shaped impact through the security and permanence attached to a household's employment patterns. For daily workers, employed on an ad hoc basis for a daily wage, income was lost for days not worked. Salaried staff did not face such difficulties irrespective of whether employment was internal or external to the agricultural sector. In terms of agricultural work, size of plot and crop grown also differentiated monetary loss to a household from contamination and any damage/destruction of assets.

Further, impact was also delineated through 'what people own, who they are and where they live' (Jaspers & O'Callaghan, 2010, p. 2). As will be explored further in Chapter 6 and 8, the reach of impact within a community and degree of its penetration into particular livelihoods then similarly varied. The degree of self-determinism in employment and shifting local markets for commodities and labour also influenced the impact of contamination on agricultural production. For those wishing to work on contaminated land, landowners, or

their salaried agents, became gatekeepers. Their decision making on whether to open fields to workers whilst there was the known or unknown risk of contamination, determined the ability of others to access work. As a counter point, those wishing to hire labour could not always do so. Their ability was, in turn, related to the way household members interpreted and negotiated the risk environment. Finally, whilst the more assets a household owned the higher the potential for the loss or blockage of that asset to damage, destruction or contamination (and indeed some respondent s suffered significant monetary losses) a causal relationship cannot be directly drawn here with impact. Although the monetary cost of contamination for some households was lower, the relative impact of this loss on the household could be greater. Here levels of livelihood security and resilience demarcate the degree and mechanisms through which households return to 'normality'.

The key research question examined within this chapter was 'how does contamination impact upon livelihoods in the field sites?' In line with the literature, contamination was seen to cause suffering and bring costs to livelihoods in terms of households' physical, natural, financial and human capitals. Further, as also noted within the literature there was, within this hazardous environment, a link between vulnerability and risk. Indeed contamination unsettled and reworked vulnerability and household security. Contamination's impact on livelihood was not, however, uniform. As discussed above, vulnerability to contamination's consequences were delineated. In adding to the comments of Jaspers and O'Callaghan (2010), although who respondents were, where they lived and what they owned generated impact, impact was reworked as it travelled 'downscale'. Factors such as local markets, individual or household negotiations of the risk environment, the nature and security of employment, livelihood security appear to delineate impact between community members.

Moreover, the impact of contamination on respondents went beyond livelihoods. Accidents brought regret, loss and a robbing of aspiration. Contamination produced a geography of fear. Alongside contamination's material consequences, there were also implications for well-being. In terms of values, perceptions and beliefs, contamination also generated emotional responses that sat beyond the capitals of livelihood. Alongside meeting material need it was the non material driver of attachment to land and crop that generated a desire to protect, irrespective of increased susceptibility to risk. Linking to wider values within the field sites, turned to in the following chapter, such actions form part of a wider landscape of resistance. Only by placing livelihoods in relational context can such factors be understood. Contamination also spoke to wider political and structural considerations that link into

circuits of power of differing scale. Here considerations of vulnerability returned to the frame of analysis. Both in terms of the vulnerability context livelihoods are played out in and the shocks and trends this contains, and the understanding of vulnerability as powerlessness in insecure contexts. Local systems of protection appeared absent in curtailing exposure to risk either within the work fields of Sahnen or returning residents of Arrefir. Further, contamination distilled down to a failure of the international system to offer safeguard. There was a failure to protect and a reduction to bare life. The very presence of contamination then positioned respondents within a much wider geo-political frame. Moreover, within this it signalled their political powerlessness. Therefore, as well as contamination affecting vulnerability on the ground, it was also representative of and reproduced political vulnerability and wider and broader scales.

Whilst the costs and suffering brought about by contamination and their impacts on livelihoods have been detailed, what this chapter has not explored is how households responded. What coping and adaptation mechanisms were used in response to the presence of contamination? How were such mechanisms reflected in the reworking of household livelihoods, if at all? These are the issues that will now be turned to in Chapter 6.

CHAPTER 6

COPING WITH AND ADAPTING TO CONTAMINATION

'It is a war, and in a war they can use all types of weapons, but if you want to protect your house, your family, your land, your home, you have to pay a price, and contamination is the price.'

(Abdel, male, interview date 28 July 2010)

6.1 Introduction

The previous chapter analysed the suffering and costs associated with contamination. It considered the constraints and transformations within and beyond issues of livelihood that contamination produced in the localised context of Arrefir and Sahnen. What Chapter 5 did not explore however were the processes of coping and adaptation to contamination that emerged within livelihoods in the field sites. This is the focus of this chapter.

As has been noted already in the thesis, the field sites of Arrefir and Sahnen were located in the periphery of Lebanon's territory, both physically and figuratively. The villages were contested. This backdrop explained the violence and political insecurity the field sites were subject to, and the very presence of contamination itself. However, as will be illustrated within this chapter, the legacies of conflict in Arrefir and Sahnen for respondents were not just physical and material. They were also emotional and non material. How households responded to contamination in Arrefir and Sahnen were, in part, shaped by feelings and values that can be seen as an outcome of history, identity and the meanings attached to place.

Therefore, although the research questions considered in the chapter are those also covered within Chapter 5, the emphasis in analysis differs. Whilst Chapter 5 focussed upon issues of vulnerability, within this chapter, resilience, particularly resilience as resistance, forms the undercurrent to discussion. The chapter will therefore consider the following research questions.

How does contamination impact upon livelihoods in the field sites?

- How is vulnerability affected by contamination?
- How is livelihood security affected by contamination?
- Do livelihoods in contaminated environments vary between different community subgroups, households and individuals, and if so why and how?

Before turning to the empirical evidence, discussion will commence by returning to the literature. In expanding upon the understandings of livelihood shock detailed in Chapter 5, livelihood concepts and terminology pertinent to the chapter ahead will be set out. This will comprise the coping and adaptation mechanisms in livelihoods that emerge in response to shock. Discussion will then turn to the coping and adaptation mechanisms to contamination that were found within Arrefir and Sahnen. Whilst some households perceived no need to cope nor adapt to contamination in livelihood, it will be argued that in line with the literature, ex-ante and ex-post mechanisms of coping and adaptation in response to contamination were evident within the field sites. Using the terminology of Bonwick (2006) it will be argued that these mechanisms constituted threat avoidance, threat containment and threat confrontation. How they were each manifested within the field sites and the specific short-term and long-term responses to contamination they incorporated will then be discussed in turn. It will be shown that adaptation to and coping with contamination comprised not only of reactive adjustment but also proactive engagement. The degree and nature of livelihood response to contamination will therefore be seen to be differentiated. The final section of the chapter seeks to draw the preceding discussion together. It considers how the emotional and non material outcomes of conflict help explain why, overall, respondents sought to cope with and adapt to contamination. It is argued that rather than these behaviours being solely related to material need and circumstance, they also resonate with issues of home, homeland and Other. Within the conclusion how the findings presented in the chapter inform the research questions listed above, will be set forth.

6.2 Livelihood Responses to Shock: Coping and Adaptation

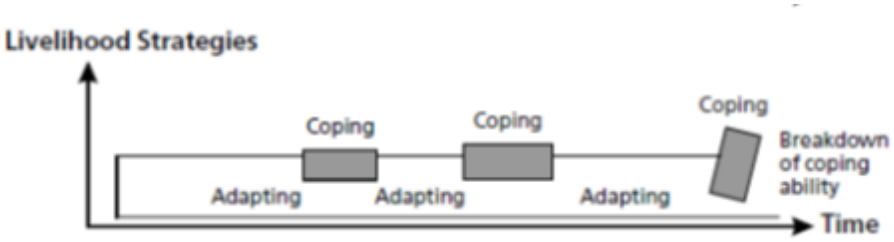
The livelihoods literature identifies a number of mechanisms that may emerge within communities, households and individuals in response to shock or the prospect of shock, introduced in the previous chapter. The understood responses to livelihood shock and the framing they provide for the remainder of the chapter are detailed below.

6.2.1 Ex-Ante and Ex-Post Responses to Shock

Responses to shock are classified within the literature as either ex-ante, namely measures concerned with mitigating risk, or ex-post, comprising coping mechanisms that seek to deal with or adapt to the consequences of the event (see Ellis, 1998, Devereux, 2001). For example, avoiding threat through migration or changing travel patterns, brokering alliances with power holders and changing crops to those less appealing to warring factions, were some of the ex-ante strategies Jaspers and O'Callaghan (2010, p. 2) found in conflict affected communities of Chechnya, Darfur, the Occupied Palestinian Territories and Sri Lanka. Ex-post strategies encompassed the use of savings for example, liquidating other assets such as livestock, gaining support from relatives and/or displacement (Ellis, 1998, Jaspers & Shoham, 2002). Ex-post strategies may be categorised into short-term, finite responses, of coping, and longer term adaptation, whereby short term coping responses acquire longevity and livelihoods undergo transformative processes of change with either positive or negative outcomes (Ellis, 1998, Devereux, 2001).

Mechanisms of coping and adaptation to shock can be linked to other (multi-scalar) processes of livelihood change. Livelihood adaptation can be associated with diversification, but the concepts can be differentiated on the basis of motivation. Diversification seeks to reduce vulnerability at the outset through spreading risk by expanding income sources. Adaptation, in contrast, looks to sustain current income or mitigate loss (Ellis, 1998). Longer term adaptation in insecure situations may therefore encompass pathways or trajectories tailored to a 'reduced situation' (Korf, 2003, p. 132). Moreover in situations of repeated shock, adaptation mechanisms from former shock(s) may combine with coping mechanisms from a current crisis, as Figure 6-1 illustrates.

Figure 6-1 Livelihoods, Shock and Coping and Adaptation



(Korf, et al., 2001, cited in Korf 2003 p.133)

In this sense there may be temporal sequencing to livelihood pathways and trajectories that emerge in response to the flows of coping and adaption mechanisms. This relates not just to the repetition of a shock and the livelihood responses it gives rise to, but also to the patterns in which coping and adaptation mechanisms are employed. As Devereux (2001, p. 512) writes: 'Strategies that have little long-run cost are adopted first (such as food rationing and drawing down savings). Strategies with higher long-run costs that are difficult to reverse are adopted later (e.g. selling the family's plough). Finally, survival strategies (such as migrating off the land) reflect economic destitution and a *failure* to cope'. Decisions made and behaviours adopted are thus related to options. In line with the DRR literature, with increased choice there is less risk (Jaspers & O'Callaghan, 2010).

6.2.2 Framing Discussion: Threat Avoidance, Containment and Confrontation

Coping and adaptation mechanisms can also highlight the integration of livelihood change and concerns of protection. In his discussion of the remit, reach and definition of 'protection' from the UN through to NGOs, Bonwick cites examples from Chechnya, Sudan and Afghanistan (one may add Syria currently to this list) of the international community failing to protect civilians before adding:

> 'A rarely spoken truth about protection is that the main players in the protection of civilians in conflict are the civilians themselves. Rightly or wrongly, when civilians are most in need of protection, the humanitarian agencies are hardly ever present... Yet people survive. They are forced to make difficult choices between unpalatable options, basing their judgements on often inadequate information and analysis.'
>
> (Bonwick, 2006, p. 274)

Jaspers and O'Callaghan (2010, p. 172) summarise Bonwick's discussion of the responses that emerge as individuals attempt to protect themselves and garner safety. Three groups of behaviours, or coping and adaptation mechanisms, are identified. 1) avoidance – escaping the threat through flight or displacement and/or the development of warning systems; 2) containment – to continue to live with the threat and; 3) confrontation – challenging and fighting back through the formation of self-defence groups, vigilante groups or joining a warring party (for full discussion see Bonwick, 2006, p274-275). Due to its ability to link livelihood responses with conflict and violence, Bonwick's (2006) terminology of ex-ante and ex-post responses to shock are used to frame the discussion within the chapter.

The mechanisms of threat avoidance, containment and confrontation that emerged within Arrefir and Sahnen are covered in turn below.

6.2.3 Boundaries to Discussion: Geographies of Conflict

Whilst the emphasis of this chapter will be on the forms of coping with and adaptation to contamination, it is important to be cognisant of the fact that not all households interviewed felt their livelihoods needed to adapt to or cope with contamination. My use of the term livelihoods here is quite deliberate. Well-being was broadly affected by contamination in both field sites, due to its psychological impact and the emotions of fear it gave rise to. However, the impact of contamination on the components of livelihood, on assets, capitals, trajectories and pathways, was more delineated.

There are a number of reasons that explain why the impact of contamination on livelihood was differentiated within and between the field sites, and this will be discussed fully in Chapter 8. Yet to contextualise the following discussion, it is important to examine the geography and nature of conflict and weaponry used within the two field sites. As has already been stated in Chapter 4, Sahnen's contamination was primarily cluster submunitions and associated UXO from the 34 day war in August 2006. During this process cluster bombs were air dropped over the village, which upon activation, opened and dispersed cluster submunitions over a wide geographical area. This resulted in high levels of spread, and hence reach, in terms of households affected. In Arrefir, by contrast, the contamination was from landmines and cluster submunitions from 1978 and 1982, associated with key military advances into Lebanese territory by Israel. At this time, minefields were laid by Palestinians as protective measures for strategic and military assets in light of advancing Israeli and SLA

forces. Areas affected were therefore geographically defined and to an extent isolated. Cluster bombs when used by the IDF were to cause abandonment of strategic areas and prevent their re-occupation; to clear and hold key geographic locations. The weaponry was therefore again used in a more targeted way with contamination being more geographically confined as a result.

Therefore, the presence of contamination within the field sites was a result of both offensive and defensive military objectives. Yet, the differential purpose behind these objectives, resulted in a different spatial patterning and spread to the contamination on the ground, left as a legacy of the hostilities. Setting considerations of well-being aside for a moment, this meant some households, particularly those in Arrefir, did not perceive their livelihoods needed to cope with or adapt to contamination. Essentially if contamination was on land that they did not own, nor have any reason to utilise, they were un-impacted. Yet as will be detailed throughout the remainder of the empirical chapter, contamination's related to non material as well as material concerns. It resonated with acts of resilience, robustness and resistance that were integrated into everyday practice. The impact of contamination could therefore be felt irrespective of whose land landmines and cluster bombs were on.

6.3 Mechanisms of Avoidance in Arrefir and Sahnen – Mitigating Risk

As Bonwick (2006, p. 274) argues the 'first line of defence may be to avoid the threat'. Avoidance may come in a number of forms for example flight, altered patterns of movement, early-warning systems, concealment of assets, and restricting association with certain groups or organisations (ibid.). Avoiding the threat and risk posed by contamination has already been discussed. As seen in Chapter 5, for those whose work knowingly brought them into contact with contamination, decisions were made as to whether to continue or cease employment in the fields. In sum, different forms of household security were traded. However, threat avoidance measures went beyond this. A number of ex-ante risk mitigation mechanisms emerged within Arrefir and Sahnen as a means to cope with contamination, and conflict and violence more broadly. These mechanisms can be associated with Devereux's (2001) depiction of vulnerability as a function of both (more generic) exposure and (more specific) susceptibility to a particular risk, as detailed below.

6.3.1 Avoidance through Altered and Controlled Movement

Devereux (2001) noted sequencing to coping and adaptation strategies in livelihood, whereby low cost mechanisms were enacted first. In line with this understanding, mechanisms to reduce exposure to risk through altered and controlled mobility were an example of this. Walking was undertaken with more care. Hard tarmacked surfaces were preferred to untarmacked routes or bare ground. Mirroring the findings in Lebanon's LIS, leisure activities such as picnicking and *zaatar* (thyme) collection also stopped. Individually, respondents also cited outdoor activities such as hiking, swimming in local pools, hunting and vegetable collection as being curtailed. As Manal stated about the prospect of hiking: *'it is something like Russian roulette; are you willing to play the game?'* (Manal, female, interview date 14 July 2010). Although in livelihood terms the 'costs' of these mechanisms were relatively less, they nevertheless were representative of the costs of contamination on well-being. This was not only seen in the impact of contamination on social and leisure activity, but in the motives for altering mobility. Aiming to generate safety and reduce exposure, altered movement emanated from feelings of fear and the unknown. As discussed in Chapter 5, the geography of fear contamination produced impacted upon well-being.

From the above it can be surmised that as a consequence of contamination, freedom of movement was essentially constrained. Absence and presence within the space of the village was controlled. It was noted in the previous chapter that concern was expressed in particular over groups whose knowledge of the presence of contamination may be limited, such as visitors to the village. Likewise, parents held concerns over children's safety and controlled where and where not they were allowed to go. There was a tendency for these controls to be most restrictive closer to periods of return or following accidents. Nasif noted how following a death in the family from a mine incident in Arrefir his childhood was '*like living in a prison*', as he was forbidden to take part in the sports and pastimes he enjoyed. For some, controls relaxed as clearance progressed and / or the locations of contamination became known. Within Arrefir however, where certain areas of land within the village remained contaminated from mines and cluster munitions, and rural areas outside of the field sites, parental concern and/or control still remained in place for some households. Respondents specifically highlighted the difficulty with older sons as Lama summed up:

> *'My son, 20 years old, went to pick zaatar from the mountain. Everytime he said he was going with his friends I used to worry. If there is a definite danger we prohibit it, but if there is a slight danger, we allow it and tell him to be cautious. It is a tradition to do it here...collect zaatar, you can't let it interrupt your life. We also go and have picnics there. Your life should continue. If you always think there is a little danger here, and little danger there, you wouldn't do anything'.*
>
> (Lama, female, interview date 29 July 2010)

Sufficiently grown up to have a degree of independence, and with it being more culturally acceptable to go exploring or follow outdoor pursuits, this group of children or young adults were a particular cause of anxiety. There was tension between trying to keep family members safe whilst maintaining a level of normalcy to everyday living; risk was balanced against other concerns. This is a theme that shall be returned to later within the chapter.

6.3.2 Avoidance through Reduced Susceptibility - Scaling Back

Within the literature there are a number of case studies of how households may attempt to reduce their specific manifestations of susceptibility (and consequently vulnerability) to the adverse effects of conflict and violence. This could involve for example: investing in crops requiring less care (in Chechnya, Darfur, Occupied Palestine Territories and Sri Lanka (Jaspers & O'Callaghan, 2010); refraining from planning for the future in Darfur (Buchanan-Smith & Jaspars, 2007); or building up assets outside of the conflict area and depleting them within it, as found in Sri Lanka (Nigel, 2009).

This latter example of ex-ante risk mitigation was also found in Arrefir and Sahnen. As we have already seen in Chapter 5, Mazen decided post 2006 that his family would be better served by using the US $11,000 he had saved for land investment to send his son to the UK for work. Investing locally was seen as bringing fewer advantages and less security to the family's livelihood than employment opportunities offered abroad. In Arrefir, on one occasion, asset depletion was also evident. Afzal, who returned to live in the village only at weekends and held contaminated land, explained that due to the proximity of the village to the '*enemy*' and his concern that the previous conflict will not be the last, he had made the decision to build his house cheaply and refrain from investing in land to insulate himself against potential future losses should hostilities re-occur (Afzal, male, interview date 2 July 2010). As Nigel (2009) found in Sri Lanka the approach adopted was to specifically reduce

investment. The risk of reoccurring violence and/or conflict, and the contamination his household already suffered from, meant there was a desire to scale back financial exposure, and reduce susceptibility and vulnerability, to risk.

6.3.3 Avoidance through Reduced Exposure – Controlling Presence and Absence

As noted in the previous chapter, periods of flight and absence from the village of various lengths were a recurrent component of livelihoods in Arrefir and Sahnen. In such instances flight was spontaneous and unplanned, induced by escalating tension, violence or conflict. However, households also sought to mitigate the risks associated with contamination specifically, and conflict and violence more broadly, through planned absence and controlled return post-conflict to reduce exposure.

Following the death of his brother from a mine accident, Nasif, reduced his exposure to contamination through the choices he made regarding location. Although his father's home remained within Arrefir, in terms of everyday living he relocated. As he explained, it was contamination that drove the move as he was:

> '*Suspicious about it: the land. That is why [I] bought land in another area, a Christian area, that is why I have bought it to build my main home. First question I asked was is the land contaminated? When they answered "no", I bought it straight away*'.
>
> (Nasif, male, interview date 1 July 2010)

For Nasif, the means to cope with contamination and the risks it posed were to physically remove his household from a hazardous environment. For those who wished to stay within the village however, but avoid the specific threat of contamination, delayed return was another mechanism used to reduce exposure. Avoiding contamination through absence in this way was evident within Sahnen. As shall be discussed in more detail in Chapter 7, for some the decision to return to and remain within the village was influenced by the degree of clearance in and around the home. Some would not return until the home and areas outside were clear. Others returned when the home could be entered but the outside remained contaminated. Others returned to check and possibly self-clear so other family members, in turn, could return. Therefore return within a single household was not necessarily uniform. Some members chose to wait away from the home until clearance had occurred and some

acted as advance parties. Here then the presence and absence of individual household members linked to their own take on mechanisms of threat avoidance, containment and confrontation.

Moreover, in a couple of instances, households sought to mitigate risk through developing the means to 'get out'. Just as in the case of Mazen, parents sought a more secure existence for their children, to remove them from the situations they themselves had faced. By extension their children may, in turn, be able to provide security to other family members. Zaina, a respondent in Arrefir, sought my research assistant's advice regarding studying abroad, due to her desire to expose her children '*to another life'* (Zaina, female, interview date 10 July 2010). Similarly, a resident in Arrefir commented how he had accepted his daughter living in the UK, so that should anything arise there was a route out of the country. It was a mechanism to cope with insecurity. As he summed up, the present can be deceptive and the future remains uncertain: '*we are sitting under this tree but worry about what the future will hold'* (Arrefir resident, male, interview date 5 July 2010).

Following on from the above, insecurity and the mobility it gave rise, linked to an inter-related set of in-situ and ex-situ implications. As seen, mobility was driven by the circumstance of everyday living and livelihood at home. Yet, new livelihood trajectories away from home had the potential to reverberate back. It could lead to adjustments and the re-shaping of livelihoods at both ends; the point of origin and point of destination. In highlighting the relational dynamics of livelihood, it is therefore necessary to not only understand livelihood trajectories and pathways themselves, but the ways that livelihoods intersect and interplay in situ and ex situ.

However the means households employed to cope with the consequences of contamination were not solely related to avoidance or ex-ante risk mitigation mechanisms. Almost without exception, households returned to the field sites. They lived with, or alongside, the threat and got on. To do so they adopted ex-post or containment mechanisms to deal with the consequences contamination had on livelihood, as will now be turned to.

6.4 Mechanisms of Containment in Arrefir and Sahnen – Carrying On

Chapter 5 detailed the risk taking behaviour within agricultural production that was evident within the field sites. Risk taking was seen to occur either un-knowingly or knowingly due to

material need or as a deliberate act to protect land and crops for emotional reasons. Although modifications may have been made to ways of working in an attempt to accommodate the threat of contamination (for example marking or setting aside cluster bombs for collection by the LAF or mine action agency later), essentially for such respondents contamination was integrated into everyday life. Livelihoods continued, even if the ways in which some livelihood activities were performed changed. As Korf found in conflict affected Trincomalee district, Sri Lanka: 'In some locations, villagers still pursue their traditional livelihood activities and farming systems even though under constraining frame conditions' (Korf, 2003, p. 135).

Mechanisms to cope with the consequences of contamination on livelihood were common place. Respondents generally demonstrated agency and self-reliance in the organisation of ways to back-fill or compensate for the costs and suffering contamination had brought. Indeed mainly dissatisfaction was expressed with the implementation and reach of governmental compensation schemes. Households coped and dealt with the consequences of contamination in a range of ways, as set out below.

6.4.1 Containing the Consequences - Adapted Expenditure

Expenditure by the household was adapted to changes in income brought about by contamination. Households economised and made choices in how they spent: *'if you have money you eat well, if you don't you eat fruit'* (Fadi, male, interview date 23 July 2010). Financial capital was drawn down on. Savings were used to cover expenses and repair or replace assets immediately following conflict, as were loans. On two occasions more significant assets were liquidised. Alongside savings, a home outside Arrefir was sold to fund rebuilding works of an old family residence completely destroyed during the occupation. Whilst in Sahnen, suffering a significant drop in income in 2006 due to direct hits and contamination on his banana plantation, Mansour sold 10,000m^2 of land to cover the incurred losses. As he stated, '*I needed money and so I sold it. This is my only source of income'* (Mansour, male, interview date 3 August 2010). In this example assets were not only used to cover specific expenses arising out of the conflict, but additionally to 'help smooth consumption' (Dercon, 2002, p. 149).

6.4.2 Containing the Consequences – Drawing Down on Social Capital

Drawing on social capital was also evident. Remittances from family members were also used as a coping mechanism by respondents. Skoufias states that:

> 'A distinguishing feature of economic crises and natural disasters from other types of shocks experienced by households is that they affect many households simultaneously. The aggregate nature of these shocks means that many of the informal mechanisms for mitigating and coping with risk become ineffective'.
>
> (Skoufias, 2003, p. 1089)

This finds resonance with the fact that financial support offered or provided to respondents in 2006 came from beyond the village and at times from overseas (see also McSweeney, 2005). It also came from those who worked outside of agriculture. As one daily worker noted, '*I used to work on land that was contaminated so for 3 months I was unable to work. My brothers helped me out at this time, both work in the security forces... My brothers helped me out for this entire period*' (resident of Sahnen, male, interview date 26 July 2010). In talking about his wife's family, Mahmoud commented how family financial support helped provide for them at this time: *'her brother started to send us money from outside the country to help us cover the costs. With this support our lives continued as normal*' (Mahmoud, male, interview date 27 July 2010). Similarly Abdel noted how following the conflict when he was unable to work due to contamination and ill-health, along with the use of savings: '*My parents and relatives helped ...out. My cousin sent me funding from Germany*' (Abdel, male interview date 29 July 2010). This perhaps reflects the strongly tied, yet dispersed, livelihoods and family networks of respondents that have emerged in response to Lebanon's turbulent past.

As discussed in Chapter 4, there is a trend of emigration from Lebanon. Lebanon has an established overseas diaspora. Emigration, and with it, remittances are an established and lucrative livelihood support system in Lebanon. Remittance inflows to Lebanon rose from US $2,165 million in 1994 to an estimated US $8,177 million by the end of 2010 (World Bank, 2011b). Commenting on Sen's capability approach Schafer (2002, p. 29) notes that it 'sees social capital as both intrinsically valuable (i.e. people value friendships and social relations in themselves), and instrumentally valuable for the way in which it assists in the formation of other types of capital'. In these instances, social

capital rather than being an accumulative mechanism was a stabilising one. It provided an 'informal safety net' for respondents (Devereux, 2001, p. 513). It also prevented the erosion of other types of capital. Therefore as well as boosting Lebanon's economy at the macro-scale as noted, at the micro-scale it formed part of the package of coping mechanisms households used in response to contamination to 'get by'.

6.4.3 Containing the Consequences - Mothballing

For the majority of respondents whose land was directly affected by contamination, resultant changes in circumstance were temporary. However for a few, responses to contamination became a more permanent feature of their livelihoods. In this sense, whilst the discussion above points to shorter term processes of coping within livelihoods, what follows links into longer-term processes of livelihood adaptation. In some situations adapting to contamination meant simply that land was mothballed. Land was set aside, abandoned (see Andersson, et al., 1995, Unruh, et al., 2003, Berhe, 2007, Witmer & O'Loughlin, 2009). Land was repositioned in respondents' perceptions and use of their livelihood assets.

Although in certain situations studies have indicated that abandonment can lead to overcrowding and over-cultivation (see for example Unruh, et al., 2003), competition for non-contaminated agricultural land was not manifest in Arrefir: An outcome perhaps of its more diverse economic base, as discussed in Chapter 8. Rather, spatially, pockets of dormant land were evident within the village. The asset was retained but daily interaction with it was minimised. It was not forgotten however. Primarily respondents wanted to realise the value of their blocked natural capital. Ways to extract value from it were sought. As Afzal was not using the land, he passed it onto his daughter as an early inheritance (Afzal, male, interview date 2 July 2010). Others expressed frustration by their inability to rehabilitate these dormant spaces and use them as a means to improve their circumstances. Putting land into productive use was desired not just as an agricultural asset, but as an asset to build on and to draw down on if need be. At the time of data collection Nabatieh was undergoing a building boom and the desire to buy and build on land in Arrefir, in its hinterland, was no exception to this. One resident of Arrefir explained her household's predicament. She and her husband bought land in the village to build on, but they believed the land was contaminated, she stated: '*We don't use it. [We] can't bring in workers to start. [We] worry about [an] accident happening. We bought land specifically for building...All the prices [are] going up and if we had built two years ago compared to now it would have been cheaper*' (Arrefir resident, female, interview

date 9 June 2010). Costs in this sense associated with dormant space went beyond the inability to utilise the asset, but also referred to its rehabilitation. As Merwan, who had two contaminated plots summed up, there is an *'inability to use your capital. There is no way to invest. I wish to keep the land; [I] don't want to sell it'* (Merwan, male, interview date 15 July 2010).

6.4.4 Contamination amid Wider Processes of Livelihood Change

For a few respondents contamination led to the substitution of primary with secondary occupations, in a similar or enhanced form, or the pursuit of new forms of income generation. This was already discussed in Chapter 5, in relation to the survivors of mine and cluster munition accidents. Further to this, unable to farm due to contamination for example, Munir moved from farming to his secondary occupation in trade and the distribution of general goods. Jamil concentrated on his subsidiary job selling second hand clothes. Wassim first substituted farming with making and selling yoghurt and then, as competition from Syrian suppliers and heavier regulation were felt, substituted again to providing a taxi service. Finally, Dabir expanded into running a generator to make up for losses he had incurred on his other two income streams.

However, interestingly, what made these transformations permanent was not that land remained uncleared, as in three instances land was cleared. Rather, there were perceived difficulties or disadvantages associated with farming in comparison to other lines of income generation. Wassim found himself earning more in his new roles. Munir was no longer able to physically work the land and preferred the variety of work he found in trading. Whilst for Jamil, it was the association of the land with the death of his son aged 12 from a cluster submunition that made it too difficult to return. Consequently, his land was not used since 1986 and his other sons have sought work outside of agriculture, as one of them, Nasif, explained:

> '*Even though land had been cleared we didn't replant it afterwards. I left the land, left the country to study and become a doctor/dentist. My brothers also did this. [We] looked to get work and not continue with farming my father's land.'*
>
> (Nasif, male, interview date 1 July 2010)

It is noteworthy that the majority of instances above occurred in Arrefir rather than Sahnen. The specific characteristics of Arrefir may help in explaining these livelihood trajectories. Firstly, relative to Sahnen, clearance in Arrefir had been slow. In the case of Munir, land was contaminated in 1978 and 1982 and was cleared in 2007/8. At the time of interview in 2010, Wassim's land remained contaminated, having been mined in 1982. Secondly, the length of absence from Arrefir due to the civil conflict altered some respondents' relationship with the village. Being respondents' family village it remained important in their lives but everyday engagements with it, in terms of residency and/or employment, had evolved. Households began to reside outside the village, returning to it during holidays, weekends, or for retirement. Finally, and correspondingly, the prevalence of farming as a main source of income was encountered less often in Arrefir. When forced to live outside the village, away from the family land, opportunities to earn outside of farming were taken up. Farming within the village was viewed by some as being in decline. It was less profitable than other lines of work. As Zaina noted:

> *'This year we planted 50kg of wheat and with the cost of rent we lost money on the farming. The wheat price and production depends on the rain and when [there is] bad rain, bad production...Through farming you will not be able to meet your needs; you cannot meet the expenses for the family.'*
>
> (Zaina, female, interview date 10 July 2010)

Therefore patterns to everyday living for households had shifted to their pre-conflict state. This was in part due to conflict itself, but also to households responding to wider processes of change within Lebanese society and economy that intersected with livelihoods in the field sites. There was a diversification and de-localisation in livelihoods. In this sense contamination may have been just an additional 'push' factor to forgo farming. As well as changes in livelihood occurring due to contamination, it is important to note therefore that they also occurred independent of it. These factors are discussed further in Chapter 8.

Korf (2004, p. 275) notes that 'war can be both a threat and an opportunity, often at the same time'. In the section above instances of livelihood change as an imposed reactive adjustment to contamination have been detailed. Expenditure was adapted, social capital drawn on and the asset of land was mothballed. Here contamination was a threat to livelihood and as such induced ex-ante and ex-post responses to mitigate or accommodate the risks, losses and blockages to assets it caused. Yet conflict could also be an opportunity.

Similarly contamination was not always treated as a threat or risk to livelihood, as discussed amongst the findings below.

6.5 Mechanisms of Confrontation in Arrefir and Sahnen – Proactive Engagement

The following section will consider livelihood adaptation mechanisms evident in the field sites that constituted proactive engagement with contamination. Here contamination was willingly and knowingly confronted as a means to improve financial capital and living standards.

6.5.1 Confronting Contamination to Acquire Gainful Employment

In Chapter 5, changes to employment structures within the field sites were noted in response to differential awareness of, and willingness to work within, contaminated fields and plantations. Other changes to employment were however also present for a small number of respondents within Sahnen. In the aftermath of the 2006 conflict, international aid for mine action flowed into Lebanon. In 2006, funding for mine action amounted to US $32,000,000 (UNDP, 2011). In response, four respondents applied for work with mine action agencies. Three secured employment, holding successive contracts with a range of operators, namely the NGOs of MAG and Norwegian People's Aid and commercial contractors, RONCO consulting and BACTEC International[40]. They worked within the sector for approximately two to three years, leaving either voluntarily or under compulsion. Although some of these respondents noted the humanitarian nature of the work was an attraction, the primary driver was economic and financial. For these respondents other income sources were undermined locally. This was not only related to contamination blocking land, but to reduced demand and/or increased competition for employment. Consequently, as with Munir, Jamil, Wasim and Dabir, their livelihoods adapted to take advantage of arising opportunities. For these respondents instead of contamination being an inhibitor of income and livelihood security, through engaging with contamination, it became a provider. Moreover, for the periods of their employment it was viewed as being a secure and well-paid income stream. This is a comparable finding to Nigel (2009) whose research determined that for a sub group of Sinhala youth in Ampara District, Sri Lanka, the conflict there generated stable employment and income through recruitment into the home guard services. The employment security and

[40] BACTEC: Battle Area Clearance, Training, Equipment and Consultancy.

remuneration this provided allowed some households to improve their homes (see p208). Similarly, the deminers' employment enabled them collectively to: clear debts; substitute for other lost sources of household income; save; start to build a home; and earn individually for the first time. Conflict then brought for this group of respondents gainful employment in its aftermath. A livelihood pathway associated with contamination opened up. By taking up this opportunity and confronting contamination as a livelihood adaptation mechanism, for a few households investment was facilitated and financial capital and security was strengthened.

6.5.2 Confronting Contamination to Secure Assets and Access

Contamination however was not only cleared in more formalised ways through agencies such as those detailed above. Household members confronted and self-cleared contamination in Sahnen as a way to secure access to homes and agricultural land. Confronting contamination was undertaken to prevent lost earnings and the loss of agricultural assets such as trees through lack of water. Similarly in Arrefir contamination was confronted and dealt with as homes were rebuilt post-conflict. Households that came across contamination whilst rebuilding, cleared ordnance as part of the construction process; bulldozers exploded mines as they worked on the plots. Financial capital was integral to this mode of perceived self-help. As Rabih put it when referring to the possible contamination on his land, '*maybe some other people don't realise the problem can be dealt with. If neither the Army nor agencies cleared it...for example I could buy a mechanical asset to drive over the land and explode the mines. It can be dealt with*' (Rabih, male, interview date 16 July). The possession and drawing down on financial capital was utilised to limit contamination's impact: to deal with it directly. The history of the field sites and the background of conflict against which the lives of respondents was set, also meant some had military experience. Consequently, the presence of contamination was an issue some households felt they could deal with internally. Their approach to contamination was pragmatic. As Umar stated: *'when I found items I collected them up for the Army: because of my military past I could. You should deal directly with the danger. If you find something you deal with it'* (Umar, male, interview date 16 July 2010). As with the findings of Bottomley and village de-miners in Cambodia these responses 'demonstrate the inherent ability of people living in difficult and dangerous situations to draw on existing knowledge and skills to develop strategies of self-help' (Bottomley, 2003a, p. 824). More consideration of these strategies and self-clearance will be returned to in the following chapter.

The discussion above highlights how contamination was confronted to address issues of livelihood security, to secure access to resources and income for example. However, contamination was confronted for reasons beyond the meeting of material need. It was purposively engaged with to acquire political capital in a contested landscape. It was a form of resilience. Indeed all of the mechanisms of coping with and adapting to contamination included within the preceding sections can be seen as forms of resilience. Be it resilience as return (or bounce-back-ability) or resilience as transformation. Resilience as resistance forms the undercurrent to the following discussion. Whilst it continues to focus upon the confrontation of contamination, it is discussed separately as the issues it raises resonate back to the manifestations of resilience in the field sites more broadly. It helps explain why the act of being resilient carried importance.

6.6 Coping with and Adapting to Contamination – Defending Home and Homeland

The undercurrent to the discussion to follow is the manifestation of resilience as resistance in the field sites. It highlights how the legacies of conflict and violence in Arrefir and Sahnen were not only physical and material. Rather they were emotional and non material. This in turn shaped how households responded to contamination. Within Arrefir, there was a willingness to invest in this contested space by some respondents. Land was inhabited, whether contaminated or not, specifically with a view to acquiring and securing political capital. Intimately tied with notions of identity and instability, the motives for such action link back to concepts of 'home', 'homeland' and 'Other'.

Within the literature, the concept of home has evolved from 'one of the most idealized sites of human existence' to a site of 'conflict', 'negotiation' 'struggle' and 'exchange' (Brickell, 2012a, p. 226). Building on this narrative and, in developing a critical geography of home, Blunt and Dowling (2006) identified three key components of the concept. Home was seen to be both material and imaginative; a physical and metaphorical space. It sat at the intersection of power and identity leading to differential positioning and experience. It was also multi-scalar. Therefore rather than earlier binaries of inside/outside, public/private, the boundaries of home were porous (Blunt and Dowling 2006 p.22 and Brickell 2012a p.226).

At times idealised, imaginaries of home and homeland emerged within the field data. This was particularly so within Arrefir. Adiva notes how her husband, although working abroad,

wanted to keep goats and chickens as part of the '*dream*' of the new family home he had built (Adiva, female, interview date 13 July 2010). One respondent similarly commented how: *'I was raised in this atmosphere where my family herded goats...I don't have peace in my soul, if I don't have goats and chickens'* (resident of Arrefir, male, interview date 12 July 2010). These activities were not undertaken for profit, but rather as memories of the past and a family/parental livelihood that once was. Rabih specifically bought land in 1981, during the civil conflict, that his father used to rent and he and his brothers and sisters used to work on. He regarded the land as a '*symbol*' and '*gift'* for the family (Rabih, male, interview date 16 July 2010). The destruction of Arrefir in the civil war, the presence of occupying troops until 2000 and years of displacement for respondents, led not only to memories of home but a yearning to return home, and to be at home. Within this there was a romanticism of life in the home village. Memory in this sense helped ascribe meaning to place.

Place is a central tenet of geographic enquiry. Within this discussion interest lies not only in how place has meaning, but how the meaning of place is integral to human experience (Gregory, et al., 2009). As Massey (1995, p. 183) states, place 'is always a product of wider contact...to the geographical world beyond, the world beyond place itself'. Place, incorporates a 'long history of interconnectedness with elsewhere' (ibid p. 183). Memories are formed, in part, from this 'contact' and 'interconnectedness'. In line with the relational focus of the well-being approach, it is our relations with others and the nature of that relationship that help shape who we are (White, 2010). As Said notes (2000, p. 177): 'memories of the past are shaped in accordance with a certain notion of what "we" or, for that matter, "they" really are'. In this sense, place is not only ascribed with meaning, but identity becomes associated with place. Place, memory and identity intertwine. As Hoelscher and Alderman (2004, p. 347) comment: 'Together, memory and place conjoin to produce much of the context for modern identities'.

The conjoining of the meanings and memories of place, and how place linked to issues of identity were evident in Arrefir. Haifa whose land was contaminated and whose husband Umar fought in the civil war noted: '*during the conflict many men, including my husband, weren't allowed in the village. So [we] used to go to a nearby viewing place and look back at the village. He is very attached to this land and to this village; his childhood was here'* (Haifa, female, interview date 14 July 2010). Now living in Arrefir at weekends and holidays, the house in the home village stood in contrast to her week days spent in an apartment in Beirut. It is the natural surroundings and being close to the land that was the attraction for her.

What Arrefir meant to Haifa, the meanings that were attached to place, shaped her perceptions on contamination. Even though she was not confident the land around her house was clear and safe she commented: '*I use the land, as I miss the land, miss using the land*'. When Umar talked in turn about his decision to buy this land he noted about their return to Arrefir:

> '*The first week we lived in a tent in the village. One day in the following weeks I was walking and sat on the rocks. I liked the view at sunset and so approached the landowner. I would have paid any price for the land where the house now is...Even though I thought it could be contaminated, I wasn't bothered by this, mainly because I wanted this plot of land'.*
>
> (Umar, male, interview date 16 July 2010)

They were not alone. As already noted above, households came across contamination whilst building, yet they persisted with their plans. Further, three households involved in the research in Arrefir bought land whilst knowing or suspecting it was contaminated. Contamination in these instances was not viewed as a deterrent to reoccupying land and rebuilding homes both materially and metaphorically. Indeed it was actively engaged with and invested in. As Adiva asked of her husband: '*I said what happens if there is another war in terms of investing money in the house, he said he doesn't care. [He] invests here as he is connected to this land* (Adiva, female, interview date 13 July 2010). The findings of Korf (2003 and 2004); Buchanan-Smith and Jaspars (2007); and Nigel (2009); highlight that households were willing to invest in their livelihoods when they felt a level of confidence and security about the future. Within Arrefir key assets to livelihoods were invested in due to a desire to connect to the past. The historical context to Arrefir and the impact that conflict had on its residents helps explain this behaviour. As Massey states (1995, p. 187): 'The past helps make the present'. Here past history fuelled present action.

Domicide entails 'the deliberate destruction of home' (Porteous & Smith, 2001, p. 12). In expanding on this definition, Ó Tuathail and Dahlman (2011, pp. 244-245) highlight a number of characteristics of domicide that are of interest here: Domicide involves the destruction of a particular form of spatiality; it is not just an attack on buildings and infrastructure but rather on 'the embedded social meaning and personal identity of place'. During periods of displacement from Arrefir because of the civil war and Israeli occupation, respondents noted the constant moving and re-homing, the need to rent or live with relatives and friends. It is

unsurprising then how memories and understandings of home became idealised. As Porteous and Smith (2001, p. 62) note with regard to domicide: 'Home is portrayed in ideal, imagined ways, and for those whose home is destroyed, this may be the only hope to which they can cling'. Correspondingly there was a desire to return and settle, to become re-rooted, and to reclaim 'home'. As Ó Tuathail and Dahlman (2011, p. 246) note 'domicide negates life in its social spatial context'. In returning and rebuilding, attempts were made to re-establish home and home life. Land in the village had been held in families for generations. There was a connection to the land and their homeland. This drive in turn influenced their perception of, and engagement with, contamination.

Consideration afforded to contamination was subsumed under a larger need to own and occupy land within the home village. Upon returning home at the withdrawal of the IDF from Arrefir in 2000, one respondent found contamination whilst removing rubble from his familial plot of land. Yet he continued to rebuild. As he stated: '*we consider having land and a home in the village like having your clothes: without it you will be naked*' (resident of Arrefir, male, interview date 19 July 2010). For the majority contamination would not, indeed would not be allowed to, undermine this emotional connection to land and its physical manifestation of occupation. Identity was intimately connected to earth. Ali expressed this inherent sense of belonging to the village. Ali grew up and worked abroad. When he talked of his return to Arrefir, where he also rebuilt his home despite contamination, he claimed that that there was '*no way I would ever become black living in Africa. Same with the States, [I] was never going to belong*' (Ali, male, interview date 14 July 2010). But he did belong in Arrefir. 'Self identity' and 'place identity' were in these instances closely associated. As Porteous and Smith (2001, p. 54) state 'the strong sense of self created by the strong sense of home may also be the factor that preserves you when home is lost'.

Identity in terms of belonging to, and having roots within Arrefir, are associated with the relational consideration of well-being. Yet they also link to political capital within the livelihood framework and wider geo-political concerns. Identity and nationality interrelate, and in turn, 'identity is territory' (Macgregor Wise, 2000, p. 301). In the context of the contested space of the field sites land was territory. Abu sums up this sentiment in his statement: '*Land is precious. [It is] the most important thing. All the wars are happening because of land*' (Abu, male, interview date, 5 August 2010). There was value in inhabiting, occupying land. As stated at the onset to this chapter, contamination was the 'price' for protecting family, home and land (Abdel, male, interview date 28 July 2010). There was a fear

of losing land and a desire to defend it. Actions to cope with and adapt to contamination, to invest in, rebuild on and live amongst contaminated land, stemmed therefore not only from a desire to connect to the past and reclaim the present, but as a means to resist a perceived future threat. It was a form of resistance.

The inhabitation and use of known or suspected contaminated land can be linked, within the literature on critical geo-politics, to everyday acts of challenge and defiance. Such acts turn 'mundane daily practices into political frameworks of resistance' (Alatout, 2009, p. 963). In terms of territorial protection and defence, remaining present on the land was a key ambition: '*They put mines on your land for two reasons: if you stay the mine is here to kill you; and if you leave we will get rid of you*' (Farj, male, interview date 8 July 2010). Demonstrating an ability to be resilient, to adapt to contamination, to live with it, or to clear it, was thus associated with a desire by respondents to demonstrate they were not beaten. They would not succumb to the shock of violence, or its effects. As Aziz noted:

> '*The southern people [are] used to it and they are attached to their land. In one part there are air strikes and in another part they are building houses. It is not acceptance, it is obligatory. It is life and you have to deal with it. It is war for 30 years...The land is like a soul*'
>
> (Aziz, male, interview date 23 July 2010)

It was acknowledged that protecting their land, their territory, required their active participation. As Goodhand et al (2009, p. 682) note: 'Boundaries have a spatial and a relational component. Boundaries include symbolic and social dimensions that are spatially marked in maps, but [they] are social constructions in need of continuous renewal, recomposition and realignment. In other words, boundaries need to be performed'. This is in turn involved an acceptance to dealing with the consequences of contamination and wider political instability. As Umar explained:

> '*When people are living here the land is stronger, which makes my enemy's job harder. [I] want to prevent what happened in Palestine happening here; you can never come back then. One of the main battles of the war is to stay here. Nothing happens by itself. Coming back and liberating the soil is done by people's arms*.'
>
> (Umar, male, interview date 14 July 2010)

Agency, alongside resilience, facilitated the protection of home and the defiance of a perceived external threat. Farj explained how acts of defiance, involving how he dealt with contamination, were integrated into his everyday existence:

> *'[I] own 40,000m^2 of land next to the river that I ploughed and prepared for farming. But I never used the land. [It's] more about making a stand that the land could be used. Need to make a stand. That's part of the reason we came back'.*
>
> (Farj, male, interview date 8 July 2010)

Defiance was then partially achieved through the appearance of normality. The attainment or portrayal of normalcy was important, as noted earlier. This explains why respondents in Sahnen were keen to express how quickly they returned in August 2006. Why they stated it took them hours or days for their lives to resume in the village, how shops re-opened, how quickly clearance within the village was mobilised, and why they just stepped over cluster submunitions lying at their door: '*when [we] got back, [we] cleared the houses, watered the land, filled the refrigerator with food, and resumed our life within 6 hours*' (Fadi, male, interview date 23 July 2010). Actions were driven by the aim to '*not surrender*' and '*not give up*'.

Within the findings above, history, identity, power and spatiality are manifest. This fuels resistance, which in turn influences respondents' perceptions of, and engagement with, contamination. Inherent within this is an opposition to the counter, to the Other. As Massey states:

> 'the boundaries of nation states are temporary, shifting phenomena which enclose, not simply 'spaces' but relatively ephemeral envelopes of space-time. The boundaries, and the naming of space-time within them are the reflections of power, and their existence has effects. Within them there is an active attempt to 'make places'...If the 'outside world' is recognised at all in this approach it is through negative counterposition...rather than through positive interrelation'.
>
> (Massey, 1995, pp. 189-190)

As Ó Tuathail and Dahlman (2011) found in Bosnia and Herzegovina, division, suspicion and antipathy towards the Other embody the post-conflict landscape. In the making of place found in Arrefir, the Other was likewise recognised in destructive and oppositional terms. The

very antagonism of the relationship with Israel, as detailed in Chapter 4, propelled place-making and in turn homeland-making. The occupation of land, contaminated or not, could be seen as a political resistant act embodied within the everyday. As Porteous and Smith (2001, p. 6) sum up: 'place is meaningful to people and...the place called home [where home includes homeland or native region] is the most meaningful of all. When it is threatened we are roused to defend it'. The context of post-conflict, yet politically unstable, Arrefir shaped the actions of respondents. The threat of land dispossession generated a political response. Acts of coping with and adapting to contamination, as detailed within this chapter, became part of wider circuits of resistance. Here land, contamination and livelihood coping and adaptation were politicised through the concepts of home and homeland. Politics and the generation of political capital were intimately tied to land: its possession and its occupation, whether contaminated or not.

6.7 Concluding Comments

Following on from the costs and suffering associated with contamination detailed in Chapter 5, this chapter has sought to consider the mechanisms of coping and adaptation to contamination that emerged within livelihoods in the field sites. In sum, within Arrefir and Sahnen livelihoods have coped with, and adapted to, contamination through threat avoidance, containment and confrontation. Collectively these responses by households to the shock of contamination highlight how resilience and resistance were embedded within livelihoods and everyday living in the field sites. In turn, they also signpost how livelihoods should not be viewed in isolation, nor should the individual components of the SLF be taken in abstract. Rather how livelihoods are inherently situated and relational, how they bear the tensions between structure and agency, and how they are influenced and shaped by the subjective affords attention. These themes run throughout the concluding comments to the chapter below.

Within the field sites shorter term coping mechanisms to minimise risk (ex-ante) associated with contamination included altered patterns to mobility and daily activity and controlling presence and absence within the village. Activities that could be removed from livelihoods without financial implications were curtailed. More strategic household decisions were also made for a minority of respondents seeking either to limit their financial exposure in the village or enable 'get out' routes should conflict re-occur. Respondents attempted to alter

their vulnerability to risk through seeking control over both exposure and susceptibility to contamination.

These measures were accompanied by containment coping mechanisms (ex-post) that supported respondents as they continued to live with the consequences of contamination. Respondents amended household spend, drew on financial and social capital and mothballed land. Savings and loans were used and in a couple of instances significant assets were liquidated through the sale of land and property. Networks were used to facilitate the flow of remittances. All of these strategies helped smooth consumption and cover asset and income loss.

Respondents also directly confronted contamination as a mechanism of livelihood coping and adaptation. Contamination was proactively engaged with not just reacted to. In terms of coping, contamination was self-cleared to secure access and maintain assets and income post-conflict. Contamination was also adapted to in longer term livelihood transformation. A hitherto unavailable livelihood pathway opened up in the post-conflict landscape. Contamination and the aid funding it brought, provided gainful employment and strengthened financial capital and security for a few respondents. Contamination was also confronted and proactively engaged with for purposes of protecting home and homeland. The history of Arrefir, the ongoing vulnerability of households to violence and instability, geographical imaginations, led to a desire to purposefully occupy land whether contaminated or not. As with Chapter 5 where threats to natural and financial assets and capital led to risk taking behaviour, here the material and imaginative concepts of home, homeland and Other, and with it, the need to generate political capital, subsumed the risks associated with inhabiting contaminated land. There was a perceived political threat and fear of dispossession. Acts of coping with and adapting to contamination more broadly within the field sites therefore became part of wider circuits of resistance. It was a means to demonstrate defiance. In this sense, how contamination was reacted to, how it impeded on daily life, or was allowed to impede, was shaped by wider political circumstance and an associated set of social and cultural values. It was not just shaped by livelihood activity, but by power, politics, history and the relations and meaning attached to place. Consequently in terms of the impact of contamination on communities, households and individuals, the relationships between contamination and political capital also require consideration; a position not readily acknowledged within the mine action literature.

To return to the research questions posed in the introduction to this chapter, a number of conclusions can be drawn. Contamination impacted upon livelihoods in the field sites by necessitating or driving the adoption of a range of coping and adaptation mechanisms. Using the terminology of Bonwick (2006) these mechanisms can be categorised as threat avoidance, containment and confrontation. However they were not adopted uniformly. Indeed different groups of livelihood were affected in different ways. Most immediately, notwithstanding the discussion of resistance and resilience above, contamination was not *perceived* as affecting livelihood for some. Further, instances of livelihood change independent of the presence or not of contamination were also evident. As with the wider literature on the impact of conflict on livelihoods, livelihood responses to contamination therefore need to be contextualised and situated (see Korf, 2004, Buchanan-Smith & Jaspars, 2007, Nigel, 2009). The impact contamination had on livelihood was differentiated and delineated. It linked to individual, household and community aims, perceptions and values, to history and context and to the relations between peoples and place, as much as to livelihood capitals and assets.

Contamination also impacted upon livelihood by affecting vulnerability and livelihood security. Livelihood security refers to 'secure rights, physical safety and reliable access to resources, food and income, and basic services. It includes tangible and intangible assets to offset risk, ease shocks and meet contingencies' (Chambers, 2004, pp. 10-11). Chapter 5 highlighted how physical safety and freedom of movement was compromised and reliable access to assets and sources of income were hindered by contamination. Here mechanisms of containment can be seen in the language of livelihood security as a means to ease shock. Adapting expenditure, taking on debt, liquidating assets, and accessing social capital illustrate how assets were drawn on to meet contingency need. Some households coped, but others could not cope without risk, and some households depleted assets to get by. The self-sufficiency of livelihood could be undermined or compromised by contamination.

If vulnerability in livelihoods is considered in terms of material need, lack of entitlement and context, a number of observations on how it was affected by contamination can also be made. The coping and adaptation mechanisms of avoidance, containment and confrontation, can be seen as expressions of vulnerability. In particular, in line with the literature, they highlight the significance of vulnerability as powerlessness in contexts of violence and conflict. Most immediately the very fact that patterns and rhythms of everyday living underwent enforced change, even if only in terms of mobility, is illustrative of the wider

structural forces livelihoods were exposed to. If vulnerability is a function of exposure and susceptibility to risk, then avoidance mechanisms undertaken by some respondents can be seen as a direct outcome of changes to the vulnerability context of livelihood. Engagement with contamination as a means to access land and work, or protect and defend home and homeland can be seen, in addition, as expressions of vulnerability. Here respondents knowingly placed themselves at risk as various forms of security were traded.

Collectively the discussion demonstrates how aside powerlessness is agency and aside vulnerability is resilience. These examples illustrate how 'people in war zones are not all helpless victims, but actively develop livelihood strategies to survive under such difficult circumstances' (Korf, 2003, p. 140). The range of coping and adaptation mechanisms detailed provide demonstrable examples of household resilience in the field sites to the presence of contamination. Resilience came in various forms. Avoidance and containment mechanisms to the livelihood shock of contamination, enabled respondents to continue to live and work in Arrefir and Sahnen. As such they can be seen as resilience as return (or bounce-back-ability). Confronting contamination to work within mine action, or the evolution in livelihoods away from agriculture highlight the transformative features of resilience evident within the livelihoods of householders. Whilst confronting contamination to secure access and assets, deliberately inhabiting contaminated land and portraying a level of normalcy in living, provide examples of resilience as resistance (or robustness).

Within Chapter 2 it was noted that the transformative effects of conflict were felt not only in macro-scale concerns of a nation's economy, destroyed infrastructure, undermined public service provision and so on. They were also felt in individual lives and everyday living. Some livelihoods benefited, some came into competition, some were oppositional, and some suffered (Collinson, et al., 2002). These understood effects of conflict on livelihood were evident within the field sites. Yet the above discussion also highlights how the emotional and non material legacies of conflict, as well as the physical and material, helped shape livelihoods in the post-conflict context of the field sites. Further, the drivers to cope with and adapt to contamination within livelihood, as a specific legacy of conflict, were grounded within the relational and emotive, as well as the material. This helps explain not only how contamination was coped with and adapted to, but why it was important. The very acts of coping and adaptation held significance beyond 'getting by'.

The themes of resilience, vulnerability, powerlessness and agency continue within Chapter 7. How the actions of respondents, alongside those of clearance agencies, sought to address the presence of contamination will be considered in the following chapter that discusses the benefits of clearance.

CHAPTER 7

THE MATTER OF CLEARANCE AND ITS BENEFITS

'Safety - my right, my life, my freedom, my movement.'

(Imad, male, interview date 28 July 2010)

7.1 Introduction

In building on Chapter 5 that analysed the costs and suffering associated with contamination, Chapter 6 detailed the livelihood coping and adaptation mechanisms that emerged in Arrefir and Sahnen to contaminated land. These were categorised as threat avoidance, containment and confrontation. Both of these chapters highlighted how the concepts of vulnerability and resilience worked their way through to the post-conflict context. They also highlighted the role of political, social and cultural practice and capital in understanding the occupation and use of contaminated space. These themes continue throughout this chapter. Chapter 7 examines the matter of clearance and the effects on livelihood it may have. In doing so, the chapter seeks to address the following research questions:

What impact[41] has clearance had in the field sites on livelihoods and local development spaces?

- How does clearance re-work livelihoods and levels of livelihood security locally?
- Are components of livelihoods reworked / unsettled / transformed due to clearance?

[41] Defined as: 'lasting or significant changes – positive or negative, intended or not – in people's lives brought about by a given action or series of actions' (Roche, 1999, p. 21).

- How do different groups or individuals populate the new development spaces created by clearance?
- Are the benefits / disadvantages of clearance equally experienced

With the shift in attention from impact and contamination to impact and clearance, conceptually there is an accompanying shift from the negative to the positive: From the constraints or blockages to development imposed by contamination, to the potential released by clearance (Harpviken, et al., 2003, Goslin, 2003). As detailed in the introduction to the thesis, the mine action literature points to three key areas of clearance impact: economic and fiscal; human (both psychological and physiological); and peace-building. Clearance is associated with unblocking access to resources, creating local employment and downstream development, producing 'saved costs' (medical care, travel time and so on) (Elliot & Harris, 2001, Harris, 2002, Harpviken & Isaksen, 2004). Removing the risk of accident, and generating safety is also linked to psychological benefit (see Andersson, et al., 1995). The processes of removal have also been linked to peace-building by enabling return and resettlement, or supporting the reconciliation of former adversaries through collectively clearing contaminated ground (Millard & Harpviken, 2000, Harpviken & Isaksen, 2004). These understood benefits of clearance preface the subsequent discussion. They provide a platform for the chapter ahead.

Before turning to the empirical evidence however, it is necessary to commence the analysis by returning to the literature. As with the previous empirical chapters, key livelihood concepts of livelihood strategies, trajectories and pathways, introduced in Chapter 2 and used within the chapter ahead, will be examined. Thereafter, the changes clearance brought to respondents within Arrefir and Sahnen will be detailed. It will be argued that clearance worked to 'undo' the costs associated with contamination in three main areas. Firstly, clearance re-established livelihood capitals, trajectories and pathways. Secondly, in extending impact beyond livelihood to issues of well-being, clearance eroded and diminished the geographies of fear produced by contamination to generate safety and assuredness. Thirdly, clearance was associated with emancipation from oppression and occupation. It signalled and generated freedom(s) beyond movement alone. This once again signalled the significance of concerns such as identity, territory and sovereignty to everyday living in the field sites. Clearance impact, along with the forms of coping and adaptation to contamination discussed in the previous chapter, can be seen to denote resilience as return, resilience as transformation and resilience as robustness / resistance.

This latter point it is of particular note and is the focus of the last section of the chapter. Within Arrefir and Sahnen it was not only the impact that clearance had that was of interest. Why clearance was necessary, what it represented and constituted, and the praxis of clearance were also points of significance. It will be argued that the very term 'clearance', as found in the field sites, could not be used uncritically. Rather it will be demonstrated that typologies of clearance emerged. There was a need to unpack clearance and the forms and processes that emerged had a number of implications. They unsettled the assumptions the research questions had been based on; they raised the question of how impact was conceptualised; they underscored the ways and means acts of resilience and resistance were integrated into the everyday. As a consequence it will be postulated that to understand clearance impact there is inherently the need to understand the interface of structure and agency.

7.2 Exploring Commonality and Difference: Livelihood Strategies, Trajectories and Pathways

As noted in Chapter 2, it was through livelihood strategies that livelihood outcomes of improved food security, reduced vulnerability and so on were achieved within the original conceptualisation of the SLF. The term 'livelihood strategies' denoted 'the range and combination of activities and choices that people make/undertake in order to achieve their livelihood goals (including productive activities, investment strategies, reproductive choices, etc.)' (DFID, 1999, section 2.5). Livelihood strategies were not necessarily mutually beneficial, but were understood to come into competition, to undermine or disadvantage one another. Factors influential in shaping livelihood strategies included the levels and range of accessible assets and/or supportive or limiting TSP environment. A greater range of assets was associated with increased choice in the livelihood strategies selected and pursued and hence the possibility to maximise outcomes (ibid).

Within the adapted livelihoods framework to situations of chronic conflict and insecurity of used by the thesis (see Collinson et al 2002, Collinson 2003) these understandings were refined. Livelihood outcomes did not necessarily constitute circuits of ever improving living standards. Given the winners to conflict, the circumstances of some may improve, however they may also decline, remain static, and/or possibly unaffected. Livelihood strategies could become bound up in the 'war economies', 'shadow economies' and 'survival economies' accompanying conflict (Collinson, et al., 2002, p. 5). Livelihood strategies were inherently

differentiated, between and within communities. This was not only as a consequence of delineated vulnerability to political violence and insecurity but the myriad of other factors, forces and decisions that households engage with on a daily basis (ibid). This is also a theme within the wider livelihoods literature. Here livelihood strategies are seen to be influenced by broader social and economic change. Processes of 'diversification, deagrarianisation, delocalisation, differentiation and restructuring' (Rigg, 2007, p. 38) and/or 'household decomposition', 'economic 'fragmentation' and 'spatial dispersion' mould and help shape livelihood strategies pursued (de Haan, 2005, pp. 6-9). The individuals that comprise households do not necessarily act in a uniform manner, nor towards the same end (ibid.) In this understanding, livelihood strategies represent how 'actors do not behave or make decisions isolated from their social context, but nor do they adhere slavishly to a script written for them by the particular intersection of social categories they happen to occupy' (de Haan, 2005, p. 10). Livelihood strategies are thus situated at the interface of structure and agency.

Interplay between structure and agency signposts question marks over the degree to which livelihood strategies can be regarded as intentional or indeed strategic (de Haan & Zoomers, 2003, de Haan & Zoomers, 2005, de Haan, 2005). The ways in which households and individuals coped and adopted to contamination as discussed in the previous chapter (the use of remittances, liquidation of assets and so on), could not be regarded as such for example. As de Hann (2005, p. 15) notes: 'there is hardly a difference between a household's strategy and a household's history...Livelihood research shows that human behaviour should not always be seen as conscious or intentional'. In light of this, alternative terminology to 'strategy' has been put forward: livelihood trajectories and pathways (see de Haan & Zoomers, 2003, de Bruijn & van Dijk, 2004, de Haan & Zoomers, 2005, de Haan, 2005, van Dijk, 2011).

Trajectories refer to the decisions and actions of households and their individual members. The term accounts for difference and individualism between communities, households and household members. Livelihood trajectories are not detached from the wider context they are situated within but neither are they wholly determined by them (de Haan & Zoomers, 2005, de Haan, 2005). The term context here is all encompassing; from the macro-scale of state and private sector, to the micro scale of family and community (van Dijk, 2011). It includes configurations of social relations and gender, cultural norms and rules of the game, history, as well as the composition of the local economic base for example (de Bruijn & van

Dijk, 2004, de Haan, 2005). Livelihood trajectories are therefore contextually embedded (de Haan & Zoomers, 2005). Consequently, broader scale patterns to trajectories can be found. Nooteboom (2003, p. 276), refers to such findings as 'styles', namely 'regular patterns of behaviour vis-à-vis adversities, threats, and insecurities which are not always necessarily the result of strategic action, but fit in a coherent set of responses'. Styles, or pathways as they are more commonly referred to, intersect with Bourdieu's (1980) concept of 'habitus' (de Bruijn & van Dijk, 2004). Common past experience and history alongside social position are acknowledged in shaping how situations are encountered and evaluated, and the actions that subsequently follow. Yet they are not wholly determining.

> 'Pathways are best defined as patterns of livelihood activities which arise from a co-ordination process among actors. This co-ordination arises from individual strategic behaviour embedded both in a historical repertoire and in social differentiation, including power relations, and institutional processes, which both pre-structure subsequent decision-making'.
>
> (de Haan, 2005, p. 17)

Habitus and the wider forces and structures it contains are not fixed but are in constant evolution. Thus there can be a commonality and pattern in how individuals and households respond to a situation and the livelihoods they pursue - livelihood pathways - but such responses should not be seen as generic to the exclusion of difference within or between groups or across time - livelihood trajectories. These concepts help explain why empirical studies of livelihood highlight difference. For example, in Pain and Kantor's (2012) livelihood analysis of 24 households in three villages in Badakhshan, Afghanistan, set against the wider picture of decline across time, the livelihoods of three households were classified as coping and three prospered. In livelihood terms, similar starting points can end up at different destinations, and different starting points can end up similarly. The route, the livelihood trajectory, may differ or align (de Haan & Zoomers, 2005, de Haan, 2005).

The concepts of trajectories and pathways link to the research questions outlined above. They provide the means to conceptualise how clearance may rework livelihoods and how patterns to any reworking may exist. Further, it prompts consideration of how impact may sit not just at the level of the household, the level at which data was collected, but above and below. In situations of livelihood shock the concept of pathways are of heightened interest. At such times there can be 'extremes and an accelerated pace of change in the decision-

making strategies of the actors. The options open to actors...vary according to the actor but still we expect regularity in options and in decision-making (de Bruijn & van Dijk, 2004, p. 347). Indeed pathways in response to contamination were evident in the previous chapter. There were patterns to the responses to contamination. Couched in the language of resilience, livelihoods returned or bounced-back, they transformed, and they were robust and resisted. The degree to which there is commonality and difference to any changes to livelihood associated with clearance, is considered in the following sections

7.3 Undoing the Costs of Contamination: Clearance and Livelihood Capitals

The first set of livelihood changes associated with clearance in the field sites can be relayed back to the mine action literature. Clearance within Arrefir and Sahnen reworked economic behaviour and income. Further it brought human benefit in the form of facilitating return and resettlement of the displaced. In the section to follow how clearance worked to 'undo' the costs of contamination on livelihood capitals will be explored.

7.3.1 Human Capital -Return and (Re)settlement

For some displaced respondents clearance was linked to their decision to return and reside. Such responses related entirely to Sahnen and the 2006 conflict. In the immediate aftermath of war, the UN and the Lebanese mine action authorities had made it a priority to clear residential dwellings after the 2006 conflict, and clearance in and around the home within Sahnen, from a variety of actors, was reported by respondents to have started immediately following the war's end. Return was swift at the war's conclusion for the majority of households in Sahnen who were displaced in 2006. Yet for households affected by residential contamination, the decision to return and then remain was influenced by the degree of clearance in and around the home. Some would not return until the home and areas outside were clear, others returned when the home could be entered but the outside remained contaminated. It should be noted that within a single household return was not necessarily uniform. Typically male members of the household returned and entered the home first to check (and in some case self clear) and families followed. However, some members chose to wait away from the home until clearance had happened. It should also be noted that not all households were automatically deterred from entering their home upon finding it contaminated, as Imad, the father of one family noted: *'One cluster at the entrance to the*

house which I and the rest of the family stepped over and entered the house; one under the tree; one on the road...[We] entered as where else [have we] to go? There is nothing better than your own home and we had been away for over a month' (Imad, male, interview date 28 July 2010). As with the habitation of contaminated land for reasons of home and homeland, the emotional connection and draw of home, and the political vulnerability this speaks to, appears to be again evident here in superseding concerns of risk.

It was also evident that whilst for one extended family the impact of clearance tangibly enabled return, the ability to do so held wider resonance. Lamya and her extended family had been subjected to numerous periods of forced movement to different destinations, exemplifying the 'interactive and entangled nature of domestic life and geopolitics' (Brickell, 2012b, p. 576). More recently however, they had purchased land in Sahnen to build upon in order for the family to put down roots. Talking of her extended family Lamya noted how the land *'is for them and for their sons'.* Clearing land so that this process could continue then meant: '*Everything. It is equal to our soul, to our spirit, as we worked so hard to buy it in the first place. It is easy to access land if you want; the difficulty is paying for it. Since we were born we had been saving to buy land*' (Lamya, female, interview date 6 August 2010). For Lamya and her family, land was an investment to create a family base for generations to come. It provided stability after years of change. The presence of contamination threatened not just the ability to live at home safely and the practical process of building, it also undermined the ambition that drove and underlay such action. Clearance then as well as enabling the practical return of the family after a specific period of displacement, also enabled that motivation to continue to be acted upon. It allowed the aim of establishing a home to be pursued. For Lamya and her family clearance then held deeper significance and meaning than its practical, tangible impact of return and construction. As she stated: '*it is about settling - not just about feeling safe'* (ibid). As Brickell (2012a, p. 227) notes: 'home is a vital space for understanding the micro-geographies of social and spatial uncertainty which influence, and are influenced by, wider structural forces of unhomeliness, alienation, and homelessness'.

7.3.2 Natural Capital – Variable Change

Clearance on agricultural land in Arrefir and Sahnen variably reworked the relationship between livelihood and production and livelihood, production and risk. There were differences in the response of individuals and households to clearance between and within

the two field sites. This could be related to different patterns of livelihood within the two villages prior to contamination and clearance, and specifically, within this, the productive role that land played for households. To explain further:

Commercial agriculture was Sahnen's main source of livelihood. As will be discussed further in Chapter 8, in total 26 (79%) households in Sahnen involved with the research used agriculture as a source of income in some form, of which for 20 (77%) households it was their primary source of income. From those for whom agriculture was their main income the livelihoods of 17 (65%) were affected by contamination. These respondents farmed their own land, farmed (daily workers) or managed (agents) the land of others, or provided support services to farmers such as ploughing. In comparison, within Arrefir, fewer households involved in the research – five (15%) - used agriculture as a primary income source. A further eight (24%) used farming, herding, selling milk, bee-keeping or providing agricultural inputs such as ploughing to provide a secondary income. Beyond this, agriculture comprised cottage gardeners who sought to supplement the kitchen rather than earn. In sum, agriculture was more modest and less commercial in Arrefir than in Sahnen. It typically involved household members rather than hired help.

Due to the above differences, clearance intersected with livelihoods in different ways. Within Sahnen, the broad response to contamination and clearance involved an unsettling and then re-establishment of previous livelihood, rather than any significant reworking of livelihood. Out of the 26 respondents whose work and income were tied to agriculture in some way, irrespective of the presence of contamination 22 (85%) never stopped working on the land and/or resumed that work following clearance. For these respondents land cleared continued to be used for agriculture. There were two individuals (8%) whose trajectories did evolve or shift. In one instance, diversification due to contamination meant, post-clearance, the pre-conflict livelihood trajectory was re-established but it now contained an additional income stream. In another instance, due to the damage and contamination they suffered, the household shifted their livelihood trajectory, sold up and sought to gain livelihood security through sending their child overseas to work. For the majority however there was no change. They did what they did before, but safely, and tried to regain lost ground.

However within this broad response, there was difference in terms of the impact of clearance. As noted in Chapter 6, households took decisions on whether to avoid, contain or confront contamination. For those households in Sahnen whose income was affected by

contamination then these decisions fed through to variation in the impact that clearance could have, as depicted in Table 7-1 below. In sum, differing starting positions led to sequencing in how everyday living was reworked following clearance. For example, if land was not used whilst contaminated then clearance could result in a number of changes for a household. Clearance could facilitate access, the resumption of production, the ability to hire, and production without risk. However, if land was being farmed and workers were already working on the land whilst contaminated, then the changes clearance brought for a household were fewer: Perhaps only production without risk. Therefore at a broader scale within Sahnen, following clearance livelihood pathways pointed towards the resumption of a preceding state rather than the establishment of a new one (in line with the findings of a gender impact assessment undertaken in MAG Lebanon in 2011 (Reeves, 2011)). Yet within this, how households encountered, coped with and adapted to contamination fed through to incremental differences in the specific changes clearance produced.

To turn now to Arrefir: Of the households who used agriculture as a primary or secondary source of income, in total, nine (27%) had been affected by contamination and had benefitted from formal clearance or rapid response. The impact of clearance for these households was mixed. In three instances (33%) the resumption of production was immediate following clearance. For others however (66%), agricultural practice either ceased or continued a lesser extent. The reasons given relate back to the comments of Durham (2010) on the role of institutional policies and practices and environment on clearance impact. In this instance, levels of confidence of clearance for landmines (as opposed to cluster submunitions); finding additional items post-clearance; or because previous levels of production could not be achieved irrespective of clearance were cited as reasons why clearance did not restore former agricultural productivity.

Clearance more uniformly benefitted the cottage gardeners of Arrefir, however. Being able to plant and grow fruit and vegetables was not vital to livelihood security, but it nevertheless held value for households. As Wafik stated: '*We won't kill ourselves over it but it does have importance for us [as] we get olives and can make oil for domestic use*' (Wafik, male, interview date 8 July 2010). The non-essential nature of cottage gardening to livelihood, in terms of income, meant that its absence did not automatically invoke substitution or production with risk. Consequently, clearance encouraged new activity, or the re-introduction of activity after a period of absence.

Table 7-1 Agriculture and Changes Associated with Clearance in Sahnen

Decision whilst contaminated	Behaviour whilst contaminated[42]	Changes associated with formal clearance
To continue working land	**Clear informally** - Self - Self and Others - Others	- None - services not accessed - 'Expert' clearance ensuring safety
	To work fully - Without daily workers - With daily workers	- To hire / use workers - To work without risk
	To work partially - Minimal work to save crop - To work part of land only	- To work fully / normally - To hire /use workers - To work without risk
	To work elsewhere - To work different plot	- Resume original practice
To suspend working land	**To await full clearance** - No working land until clearance complete	- Resume original practice - To hire / use workers - To work without risk
	To await partial clearance - Land worked bit by bit as cleared	- Resume full work incrementally - To hire daily workers - To work without risk
	To diversify - Open alternative income streams	- Original practice added back into portfolio of livelihood activities

[42] Note the categories above are not mutually exclusive, for example some respondents organised clearance and then continued to work, either partially or fully.

In contrast to the broad pattern of response to clearance in Sahnen, the links between clearance, livelihood and production in Arrefir were therefore variable. It could open up new development space for production, reinstate former productive practices, or produce no change at all. Impact was not automatic and irrespective of clearance former patterns to livelihood and everyday living involving land did not always resume. This suggests the presence of other variables that act upon impact. The presence of mechanisms and moulding forces that were found within the field sites, especially Arrefir, to shape clearance impact are examined in Chapter 8 and cover structural, subjective and relational considerations.

The above findings correlate with different arguments within the mine action literature. In line with the situation in Sahnen, Horwood (2003, p. 943) states that: 'The removal of mines or UXO does not cause development or reconstruction. Instead, in terms of what its intended outcomes are, it normally restores the status quo ante bellum, which may not in itself automatically be beneficial'. In sum, it restores the old rather than creating the new. Others go further to argue that attainment of the pre-war and pre-contamination situation cannot necessarily be assumed (Harpviken, et al., 2003, Millard & Harpviken, 2000), as found in Arrefir. However beyond this, the findings in the field sites diverge from the literature. For the cottage gardeners of Arrefir, clearance did enable new productive spaces to be opened up. Further, contrary to Horwood's position, in Sahnen the ability to return to work, generate production, turnover or profit, was beneficial to those whose livelihood security had been eroded by contamination. Benefits also cascaded. Employers who had refrained from hiring or using workers whilst land was contaminated did so once again (see also Durham 2010). If they were already hiring, post clearance, workers could operate safely. Moreover, benefits were immediate. When commenting upon the effects clearance had on his livelihood Abu noted: '*What effect? What can I do? Enter the fields and die? I was forced to stay at home. For two months no work, no money to spend. If someone has savings he spends his savings. [If] he has nothing, [he has] just bread to eat. After two months things went straight back to normal'* (Abu, male, interview date, 5 August 2010). In Sahnen rather than enabling the new, clearance did restore the old, yet there was benefit (and immediacy) to such changes for individuals and households.

7.3.3 Financial Capital – Restoring Income and Cash Flow

As an extension of the changes clearance had on natural capital, clearance enabled the process of financial recovery to commence. Similarly, in-line with the position set out above,

rather than enabling new capital accumulation, clearance in Sahnen enabled fiscal backfilling, or recuperation. Yet, whereas changes to accessing natural capital were immediate upon clearance, changes to financial capital were more gradual.

Through clearance, land could be farmed, but for some there was a lag before the full benefits of this were felt. Most commonly, production and income levels in Sahnen dipped for the year of the conflict and returned to comparable amounts the year after. Concerns were expressed by some as to the length of time it took for production to get back up to full strength and/or financial loss to be recovered. It could take a number of harvests before production, and hence income, recovered. Consequently, Samir noted the two years it took for his banana plantation to regain full production after replanting; Habid the fact that although his olive groves had been replanted for four years at the time of data collection, being able to harvest was still two to three years away; Aziz noted in 2010 production was still not 100%; whilst for Fayez it was three years before his citrus and banana production matched pre-2006 levels. Contamination was one cause of this, but so too was the absence or limited watering during and after the conflict, and damage/destruction of trees, orchards and groves through direct hits. Clearance could therefore build a platform to recovery, but there was variance in the specific characteristics and timeframes that recovery would take for different households.

To sum up, in line with the arguments of de Bruijn & van Dijk (2004), for a minority of households the act of clearance corresponded to points of departure in livelihood: livelihood trajectories evolved. However, for the majority of affected households within the field sites clearance was associated with processes of recovery and a return to normalcy. The unsettling of livelihoods caused by contamination was, under conditions of clearance, stabilised from which processes of recovery and the re-establishment of former livelihoods commenced. This was found with regard to the home and productive use of land. Whilst trajectories of livelihood recovery varied, they worked towards reinstating the former use or levels of natural, human and financial capitals.

At the community level therefore, whilst differences in livelihood trajectories were evident, there was nevertheless pattern and regularity to the response to clearance amongst individuals and households. As with contamination, these can be framed in the language of resilience, particularly a consideration of resilience as return, and to a lesser extent resilience as transformation. The links between clearance and resilience as resistance or robustness

form part of the discussion below. The focus of the section is the relationship between clearance and well-being.

7.4 Undoing the Costs of Contamination: Clearance, Well-Being and Safety

Pain (2010, p. 231) warns 'it is important to be aware of the disempowering effects of labelling certain people fearful; it can reinforce the association of victimhood and overlook agency, resistance and self-action'. Yet notwithstanding the resilience and agency detailed within the thesis so far, contamination produced a geography of fear. As detailed in Chapter 5, principal terms respondents associated with contamination, across both field sites, included 'worried', 'frightened', 'afraid', 'fear', 'danger', 'harmful'.

When considering the impact of clearance in Laos, Durham found persistently 'the biggest benefit of UXO clearance is freedom of fear from UXO injury' (Durham, 2010, p. 4). Indeed, even 'where clearance is for individual agricultural land, the biggest benefit is an increased sense of safety' (ibid p. 37). Similarly, working within southern Lebanon, Reeves (2011) found clearance was associated with feelings of reduced insecurity and improved physical security. Cluster munitions were associated with danger and the majority of respondents noted 'psychological impacts such as fear, stress and anxiety' (ibid, p. 31). Responses within this study affirm such findings. A key change accompanying clearance was improved well-being. As Ghassan summed up: *'Safety comes first and the second issue is whether the land can be used or not. Safety is the most important concern'* (Ghassan, male, interview date 9 July 2010).

Following clearance, as may be expected, concern and fear were assuaged – maybe not completely and in all cases– however clearance was associated with an increased sense of safety and decreased worry. As with fear, this increased sense of safety was not just for oneself, but for other members of the household or family and wider community. As Adiva stated, even though she was not directly affected by contamination, '*if it is cleared I will not worry about others'* (Adiva, female, 13 July 2010). Along with this increased sense of safety were other emotions, cited terms included 'happy' 'confidence', 'relaxed'. As Baahir pointed out: *'we don't have to wait until an accident to happen to know if the land is contaminated or not'* (Baahir, male, 16 July 2010). The tangible removal of harmful objects therefore generated a level of certainty and assuredness. Within the minutiae of the everyday it

returned control and generated freedom. These findings broaden the impact of clearance from concerns of livelihood to those of well-being.

However, the impact of clearance went beyond safety and well-being. The issues of fear, control and freedom bound up with contamination and clearance speak to wider political and (in)security concerns. As Pain notes (2010, p. 226) geographies of fear provide one of 'the everyday sites where emotions and geopolitics meet'. Implicit within this were the issues of power and control. What contamination and its clearance then represented to respondents and how this links to understandings of vulnerability and marginalisation, empowerment and emancipation, is examined below.

7.5 Undoing the Costs of Contamination: Clearance, Emancipation and Freedom(s)

From the preceding chapters it can be seen that whilst contamination was a tangible outcome of insecurity, its presence produced and/or reproduced a set of (in)securities much broader than that of contamination alone. Contamination was representative of, and reproduced, political vulnerability at wider and broader scales. It was into this mix that clearance was thrown. The following section seeks to distil the significance of clearance for respondents in this context of episodic violence and adversarial relationships. In doing so it aims to expand discussion on impact beyond issues of livelihood and well-being.

7.5.1. Challenging the Reproduction of Dominant Political Relations

Philo (2012, pp. 4-5) notes three areas of academic enquiry with regard to geographical security studies that he terms 'carceral geographies', 'landscapes of defence' and 'critical geopolitics'. Interest here is directed at the latter strand and at the intersection of geographies of fear with geographies of (in)security. In particular this includes the understanding within this discourse of how 'many other vulnerable, precarious, subaltern and otherwise marginal(ised) populations end up in the firing line...their deepening insecurity inextricably entangled with the efforts at enhancing the security felt by others' (Philo, 2012, p. 5).

Alatout (2009, p. 958 and 967) comments that although the wall in the West Bank has been analysed as a 'technology of occupation, separation or security', it works as a technology of government at the corporeal level, providing a 'bio-territorial framework' to control the use and population of space. In citing examples from India/Bangladesh, Iraq and Bosnia, Fluri (2011, p. 281) points to examinations within the literature of the spatiality attached to bio-politics that aim to 'regulate the placement and mobility of bodies'. The war on terror, homeland security and the blurring of boundaries between civilian and combatant have been accompanied by 'changing spatialities of violence' (Dalby, 2011, p. 200). Whilst mass bombing campaigns, as experienced by respondents, may be a more obvious expression of bio-power, contamination and the controlling of space and mobility that it leads to is, as a remote extension of state power, arguably another.

Contamination was a demonstrable expression of military might and bio-power. The insecurity generated in the field sites by contamination was intrinsically linked to the generation of security elsewhere. Such acts were intimately tied to issues of power and control. Geographies of fear link to geo-politics in how they reproduce and reinforce social disadvantage. This in turn supports dominant societal structures and political relations. As was discussed in Chapter 5, women's fear of crime linked to patriarchy (Valentine, 1989, Pain, 2010). Similarly, the fear and negotiation of space contamination produced linked to the dominant organisation of political relations. Given the symbolism attached to contamination in the contested landscape of the field sites, removing items was then not only associated with the amelioration of risk but emancipation. Land was figuratively as well as pragmatically freed. Steps to resist and rebalance the pattern of political relations were taken. The clearance of land then held deeper meaning than safety and production alone. It took on political symbolism. The regaining of security was accompanied by a set of more intangible understandings of release from confinement and suppression, as explored below.

7.5.2. Freedom(s) and Liberation

Clearance resonated with emotions of liberation from oppression and living under conditions of war. The presence of contamination was regarded as '*prolonging the period of war*'. It was a '*silent war*'. In her commentary on civilian security in Afghanistan, Fluri (2011, p. 291) argues that 'civilian bodies increasingly populate the spaces of conventional and unconventional warfare'. Here, the continuing threat contamination posed meant although formal agreement to end hostilities had been reached, on a daily basis the presence of war

was nevertheless felt. As Ahmed commented: *'It is like the war continues. Even when the bombing stops, the existence of cluster bombs is like the existence of war'* (Ahmed, male, interview date 27 July 2010). Further, contamination not only represented conflict but for some the presence of Israel on Lebanese territory. It was viewed as '*an enemy on your land*'. Land was still '*occupied*' due to the presence contamination. As Aziz stated: *'Wherever there are cluster bombs it is like an Israeli occupation'* (Aziz, male, interview date 23 July 2013). If for some contamination was associated with occupation, then clearance brought liberation and signalled freedom: As Daifa noted: *'I view the clearance the same as the liberation and withdrawal of the Israelis'* (Daifa, female, interview date 14 July 2010). Just as land was not merely land but territory, clearance was not just clearance, it generated freedom. Indeed the associations between clearance and freedom were manifest in a variety of forms.

Commonly in respondents' terms clearance generated '*freedom of movement'*. Linking clearance with safety and freedom of movement was key. Obviously important in its own right, it additionally facilitated other change. Linked back to the previous discussion on livelihood security, it re-established access to resources that had previously been removed, curtailed or undertaken with risk. Beyond this however, it enabled the ability to go here and there, undertake the mundane, do the humdrum, be normal either unconcerned or with less concern. In sum clearance enabled the enactment of rights and freedoms integral to the everyday. Whilst unspectacular in their very ordinariness, the inability to do the very ordinary had eroded some of the fundamentals of being. As Imad revealed in his statement used at the beginning of the chapter: *'Safety - my right, my life, my freedom, my movement'* (Imad, male, interview date 28 July 2010). In making other things possible, safety and freedom of movement enabled the realisation of perhaps more fundamental freedoms. It enabled the right and liberty to self-determination, autonomy and free-will that had previously been removed or limited. How it was possible for those rights and freedoms to be removed initially held resonance for some respondents in this contested landscape, as explored below.

7.5.3. Protection, Prevention and Circuits of Politics

In Chapter 5 it was argued that the conflict in 2006 demonstrated an erosion of corporeality; a space of exception where rights were suspended. There was a reduction to bare life. Within the international networks that attempt to govern security and conflict there was a failure to protect. Further it was international networks that facilitated the production and use of such

weaponry. The very presence of contamination spoke to the geo-political vulnerability of the field sites. These sentiments also found expression in respondents' views of clearance.

Although clearance for some represented liberation and the regaining of freedom(s), for a couple of respondents clearance agencies mistakenly emphasised cure over prevention. As Imad noted: *'Thankful for the work that has been done in my home, but agencies should not just be clearing but going to the country, UN, to prevent them happening in the first place'* (Imad, male, interview date 28 July 2010). Whilst for others, there was incongruity at the behaviour of Western governments. When commenting on the remaining contamination within Arrefir, Kassim noted *'the irony of the governments of Western countries supplying the weapons and then Western agencies coming to collect them'* (Kassim, male, interview date 1 July 2010). In essence, for some respondents there was a questioning of agendas, priorities and policy across scales. This included what mine action is, what it constitutes and represents.

The post-colonial and political economy of conflict literatures are helpful here. They help position the mine action sector. As discussed in Chapter 2, the changing nature of insecurity and conflict has been accompanied by transformation and a 'radicalization' in the ways in which conflict is viewed, as Duffield (2006, p. 121) notes:

> 'Not only has conflict been rediscovered, but development assistance has simultaneously been granted a new lease of life as a structural form of conflict prevention. Hence, despite a history of failure, it has been repackaged as a valuable, indeed, as an essential weapon in the armoury of liberal peace.'

The trickle down of this policy then helps explain the remit of mine action actors and their programmes. How they currently bridge both sides of conflict - working on clearance and increasingly conflict prevention and security sector reform interventions through the destruction of SALW. Clearance agencies too are part of the political economy, as the comments above by respondents attest to. Mine action is part of the securitisation of development. As seen in the adapted livelihoods framework put forward in Chapter 2, they form part of the TSPs of livelihood. Whilst adopting positions of neutrality in line with humanitarian principles in terms of implementation, bi-lateral or multi-lateral funding aligned to policies and priorities of donor governments or UN agencies, and working practices on the

ground in agreement with local stakeholders, necessarily make such entities political[43]. Whilst clearance could offer protection, neither it nor other forms of intervention, could, or did, offer prevention. What clearance was not, and what this signified, was in this sense as insightful as what it did.

Within earlier chapters the agency of respondents, their self-reliance and resilience was detailed. Yet, the discussion above explores how agency at the individual, household and/or community scale sat in conversation with influential structural considerations. Geographies of fear and (in)security were implicit within contamination and clearance. This helps expand discussion on impact. It spoke to the organisation of political relations acting upon the field sites and within this how increasing security for some signalled insecurity for others. Alongside giving consideration to what clearance achieved, questions of why clearance was needed and what clearance was not, were also informative in signposting the vulnerability and political powerlessness of respondents. Finally it moved impact beyond issues of livelihood and well-being. Associations between contamination and clearance, and understandings of occupation, liberation and freedom(s) by respondents highlight concerns of protection, security and some of the fundamentals of being. In building on the findings of Chapter 6, whilst clearance linked to resilience as resistance or robustness, why resilience and resistance held significance for respondents, along with the vulnerability it stemmed from, is important to note. In the final section of this chapter, this interplay between vulnerability and resilience, structure and agency in the field sites will be examined further through the very matter of clearance itself.

7.6 The Matter of Clearance in Sahnen and Arrefir

Whilst various changes to respondents' livelihoods, emotions or (in)securities were found to have followed clearance as explained above, the matter of clearance itself was also found to be of note. Throughout the course of the thesis so far the term clearance, unless specifically noted otherwise, has referred to the clearance undertaken by national or international clearance bodies: The Lebanese Army, UNIFIL or clearance agencies such as MAG. In the

[43] See Hamieh and MacGinty, (2010) for a discussion of the political dynamics of post conflict reconstruction in Lebanon following the 2006 conflict.

discussion to follow such clearance shall be referred to as 'formal' due to its governance mechanisms. Yet, in line with the literature on clearance within Lebanon and more broadly, within the field sites clearance was a much messier affair. There was also 'informal' clearance practice. The term 'clearance' could not be used uncritically. This goes to the very heart of the research questions posed at the onset of the chapter. Moreover, when the term *was* problematised, additional points of enquiry came to the fore: Who were the actors involved? What did informal clearance constitute? Why was this behaviour undertaken? In sum, it was not just how development space was populated that was of interest, but rather the processes and practices that underpinned how that space was created in the first place.

It is the aim of the following section to attend to these concerns and unpick and unpack the matter of clearance as found in the field sites. Typologies of clearance emerged that pivoted around the axis of: 1) clearance agent; 2) scope of practice; 3) temporality; and 4) motivation. The characteristics of each are detailed below.

7.6.1. Agents of Clearance

Writing in 2006 in the wake of the 34 day conflict between the IDF and Hizbollah, HRW noted that alongside international demining agencies such as MAG and Norwegian's People's Aid, UNIFIL and the Lebanese Army, clearance was also undertaken by Hizbollah, community members and vulnerable and marginalised groups for payment. Clearance was therefore not the sole domain of national or international bodies or agencies charged with that remit. It was a more crowded marketplace.

This was also found to be the case within Arrefir and Sahnen. 10 identifiable groups of clearance agent were involved in clearance from international bodies to individual community members. In addition to the Lebanese Army, UNIFIL, Hizbollah and international demining agencies, five groups of clearance agents in Sahnen and Arrefir originated from the affected community itself or its hinterland. This broke down into unpaid community clearance by householders, friends/family/ acquaintances and village volunteers. Whilst paid community clearance took the form of self -employed demining and clearance by daily workers. As discussed in Chapter 5, daily workers were specifically employed to clear or did so in the process of more general labouring. Finally there were individuals brought in from outside for their skill-sets and technical knowledge that also performed clearance for payment. The drafting in of external technicians to clear was found amongst large scale

landowners. Beyond clearance itself, reconnaissance and checking by householders, family/friends, or acquaintances was common.

The picture that emerged therefore was a mosaic of overlapping and intersecting structures and processes of clearance. In his description of his return home and return to work in 2006, Adnan captured the range of agents involved and the sinuosity of the clearance process:

> *'The first day we came back, even the access road had cluster bombs. We cleaned up the mess. We returned the same day as the ceasefire. The next day we went out to check around the house and on our land. What we found we reported to the Army. The Army came turn by turn. After 40 days nobody came, so [I] entered into the land with worker...to water the land. [It] took seven days to fix the water system. Two weeks still nobody came. So [I] brought somebody....voluntarily to help clear the clusters. I used to help him but I was terrified. He collected about 150 in this way. I used to help him with the scotch tape. After he collected the clusters we couldn't move them and so [I] called the Army and they brought international experts from the agencies to detonate them. This German expert, he opened them and only seven were dangerous and [he] detonated them there and then. The rest he took away.'*
>
> (Adnan, male, interview date 23 July 2010)

Bottomley (2003a, p. 829) refers to the clearance by village deminers in Cambodia as a 'patchwork', deployed sporadically in space as and when needed. Here irrespective of the very systematic approach of formal clearance, when viewed from a community level, the same term can be applied to clearance practice overall. Clearance overlapped or intersected across space. Different agents could perform different roles across time. Items cleared and collected informally may be destroyed by a formal mine clearance agency or body. Informal clearance may in time be followed by a formal visual check and so on. There were therefore hidden spaces of clearance that sat outside the formal data presented in Chapter 4. A range of stakeholders and actors were involved in the creation of development space and the reworking or unsettling of livelihoods and livelihood security that this may have involved.

7.6.2. The Scope of Informal Clearance Practice

Clearance within the field sites could also be disaggregated on the basis of task and methodology. The textbook clearance process is sequential. Formal clearance agents are remitted to undertake the full spectrum of clearance work from survey through to destruction. In comparison, within Arrefir and Sahnen clearance agents were more commonly associated with particular tasks. Within the field sites, informal clearance involved: checking suspected sites, flagging or marking items, setting items to one side or boxing or piling up items for collection by others[44]. Clearance was therefore primarily surface rather than sub-surface. There was also an instance of a former demining dog being used to check land prior to contacting the authorities. Respondents also noted how items found in the field sites were destroyed. Cited methods covered setting fire to items (possibly in a tyre or between rocks), shooting items from a distance, exploding buckets of items down a well, exploding items at sea and bulldozing items whilst building.

As will be discussed further in Chapter 8, the ability to draw on military experience and skills was a regular companion to informal clearance within Arrefir and Sahnen. It was cited by those who cleared and by others who approached them for this very reason. Indeed the very absence of military experience was cited by one respondent as the reason he ruled himself out of any clearance work. Understanding the context and history of the field sites and skills that have acquired within the human capital of households, then helps explain the presence of informal clearance. However, irrespective of training, what constituted informal clearance did not necessarily correspond with the scope of formal clearance. Activities were more piecemeal, less thorough and methods could be unsafe. The temporal patterns to informal clearance and the motivational drivers that underpinned them, help explain these characteristics.

7.6.3. Temporal Patterns to Informal Clearance

There were temporal patterns to informal clearance. Within Arrefir, clearance commenced whilst the village was still occupied and respondents returned. With the mine action sector in its infancy both international and national structures and processes of clearance were limited

[44] These types of tasks were also associated with village demining in Cambodia (see Bottomley, 2001).

in scope and reach. Consequently respondents had to rely on informal clearance, at least initially, or land was just left until the availability of formal clearance improved and established in subsequent years.

Although the contamination in 2006 represented a different scenario, informal clearance was similarly heavily present in the immediate aftermath of conflict as respondents returned. Although formal clearance surged in the days and weeks following the ceasefire in 2006, it grew from a low base. In respondents' terms authorities were 'overwhelmed' at the scale of the task. All available formal capacity was deployed, whilst new donor funding was rapidly sought for additional teams and equipment. As detailed in Chapter 4, any clearance capacities that worked on mine clearance were shifted across to cluster munitions clearance. As donor funding came on line, the number of teams grew and then stabilised, but this was over months and the coming years. Against this backdrop informal clearance agents set to task immediately at the conflict's end. They started to deal with the problems they faced upon return as they encountered them. Much greater in number they could be present where it was impossible for stretched formal capacities to be.

Consequently informal clearance peaked in the immediate aftermath of conflict. In discussing community clearance, HRW noted (2006, pp. 288-290): 'Demining groups indicated in the fall of 2006 that civilians were clearing at a lower rate than they were immediately after the war'. By summer 2007, the following year, local mine action authorities reported 'community clearance was still a problem'. By January 2008 such clearance was 'rare' (ibid). This was not to say however that informal clearance capacities ceased. Lying dormant was a more apt description, there to be tapped into as and when required. As Ziad noted, '*on occasion when there used to be suspicious objects I used to contact the people who had experience in it and they would come and check it'* (Ziad, male, interview date 29 July 2010). As Bottomley also found with village demining in Cambodia, 'mine clearance is not a full-time occupation, but rather a strategy that is employed as and when needed' (Bottomley, 2003a, p. 829).

Temporal patterns to formal and non formal clearance therefore emerged in the field sites. At the immediate end of the ceasefire, clearance at the community level was both simultaneous and discrete. At a fixed point in time, different agents undertook various clearance tasks across the development spaces of the community. They could work independently or collectively. However, longitudinally the incidence and dominance of different groupings of clearance agent that occupied this space waxed and waned. The

incidence of informal clearance peaked at the end of the conflict when the need for clearance was greatest and most immediate. With time this diminished but did not altogether disappear. Rather it could be tapped into as and when needed. Informal clearance was therefore a strategy; a form of response by communities trying to deal with contamination in their own terms. It provided a solution to immediate and urgent clearance requirements when the reach and capacity of formal options was limited and/or beset.

7.6.4. Motivational Drivers to Informal Clearance Behaviour

The literature points to a range of motivations that belie informal clearance: lack of land, land pressure and limited livelihood options being some of them (Bottomley, 2001, 2003). Informal clearance in the field sites were driven by a variety of factors, not all of them planned. Rather the testimony of some respondents pointed towards a spontaneity within the clearance of householders or village volunteers. Risks were set aside as respondents got caught up in the moment as Mansoor stated: '*I went to pee. [I] left the workers in a safe place. I found one bomblet, then another and collected 48 and forgot I wanted to wee'* (Mansoor, male, interview date 3 August 2010). Lack of awareness also drove informal clearance. As Habid added: *'[We] didn't know what we were doing. We stepped on it, it didn't explode, we hit it with a shovel, it didn't explode so we started clearing it'* (Habid, male interview date 30 July 2010). There is impulsivity and an impromptu nature to such clearance. It almost seems to occur by accident rather than design.

However in the main, informal clearance practice addressed need. It was associated with material concerns and the generation of safety. In the case of South Lebanon in 2006 HRW (2006, pp. 280-282) noted that:

> 'Various reasons exist as to why community clearance has been so pervasive. In some ways the sheer number of duds has necessitated self clearance...This was particularly true after the ceasefire when people returned to homes and communities inundated by submunitions, and the Army and NGOs were unable to perform clearance. Economic necessity has also been a factor in self-clearance...Poverty has also compelled some individuals to remove submunitions as a source of income.'

All of these factors found their parallels in the field sites. Safety concerns and economic considerations coupled with the reach and capacity of formal clearance drove alternative forms of clearance. Indeed, in 2006, as supply could not meet demand in the immediate aftermath of conflict, for a brief period a market for clearance services appeared to establish that sat outside the formal structures of mine action. Mansoor noted the arrangements on his farm:

> '*Some of the people who used to work came again: Palestinians. They started straight away with me, straight after the war. 20,000 LBP for 4 hours to work the land, 25,000 LBP for 8 hours to water the land. Other landowners [were] clearing for themselves or getting [other] people to clear. Previously it was 15,000 LBP but had to increase it because of the risk.'*
>
> (Mansoor, male, interview date 3 August 2010)

In line with the literature, in this hazardous environment Mansoor hired one of the most vulnerable population groups in Lebanon. Clearance services by those with the skills, and/or driven to undertake clearance from monetary opportunism or vulnerability were sold and those with an unmet need for clearance sought and sourced alternatives.

The time taken for formal clearance activities to begin at a designated site was a key reason substitution clearance options were pursued. Within Arrefir the date of contamination, its pre-dating of formal mine action within Lebanon and the continued occupation of the village, meant formal clearance services were simply not accessible. Whilst understandably in 2006, given the extent of contamination to be cleared, the mine action authorities had established priorities to direct the deployment of teams. The clearance of agricultural lands was secondary to homes and protecting public services (schools, roads etc). Within Sahnen, this factor, coupled with the occurrence of conflict at harvest time for some crops and planting time for others, meant to save crops and safeguard future income access to the fields, even if only to do the minimum, was enabled. As Cemal noted, time was of the essence. '*After three days I reported it to the Army and no-one came, so I cleared it myself...I went in as I didn't want to lose the crop. I start to harvest my bananas in August and worked all year for the crop'* (Cemal, male, interview date 26 July 2010). As one respondent who had cleared contamination for payment commented – '*when agencies started still people came to me as agencies were taking time'* (Resident of Sahnen, male, interview date 26 July 2010). These

economic imperatives meant that as Bottomley (2003a, p. 827) found in Cambodia, 'to wait for mine clearance is often an unrealistic proposal'.

Waiting for clearance was not just about speed but the choice of location of formal clearance sites. In the view of respondents formal clearance may not reach, or not reach quickly enough all areas suspected and/or contaminated. Consequently other mechanisms backfilled or offered a substitute. '*In some places where MAG didn't clear, we hired people in to clear the land...they are known...I got them to clear within four or five days of returning and the war ending...They cleared everything; they found 500 bomblets'* (Hussein, male, interview date 29 July 2010). The issue of where formal clearance occurred and its relationship to informal clearance practice was also noted by Bottomley in Cambodia: 'Even when mine clearance is operating in a village, village demining may still occur during or after these operations because the clearance does not match the priorities or expectations of the villagers' (Bottomley, 2001, p. 39). Decisions made regarding formal clearance can then have a knock-on effect to the presence of informal practice.

Amongst respondents, informal clearance was delineated from that of formal clearance involving machines, equipment and training. For a minority it did replace, as opposed to supplement, formal practice as respondents cleared land themselves, organised for paid clearance by others or were in receipt of community clearance services. However, it mostly comprised the minimum required to meet essential needs and enable access rather than make the land 100% safe. Adnan spoke about the need to get to his crops *'Sure not cleared but needed [a] minimum ability to look after our lands, make sure the water supply was getting to them, [I] needed to...take care of them. I did receive mine risk education but I had to go out'* (Adnan, male, interview date 23 July 2010). In this regard clearance by different agents performed different functions in the minds of some respondents. Informal clearance was an interim, 'make do' measure. It enabled minimal access, helped mitigate loss and responded to immediate need. Farid noted that the clearance on his land it was '*to make a rapid solution, as the families came back and the Army was overwhelmed and some villagers had experience in clearing already'* (Farid, male, interview date 27 July 2010). Informal clearance was a form of self-help and cross-community support. It did what was necessary to secure a home, or to save a harvest or crop. However it was also enabled and/or encouraged by community values and norms, as now discussed.

Community, household and individual attitudes to contamination also drove informal clearance practice. This took a number of forms. As detailed within the preceding empirical chapters there was a desire within the contested landscapes of the field sites to demonstrate resistance and resilience. Emotional attachment to land, notions of homeland and belonging, the generation of political capital all combined into a willingness to engage with, or organise others to engage with, contamination. Clearance was undertaken out of a sense of responsibility that could cut across scales. It could be felt towards one's nation: '*patriotic reasons'* as one respondent put it (Nasif, male, interview date 1 July 2010). One's community: '*I am proud of what I did; I am saving the village'* (Salim, male, interview date 27 July 2010). One's family: '*my children were here so I had to do something*' (resident of Arrefir, male, interview date 5 July 2010). And for emotional attachment to the land respondents lived and worked upon: *'[If] I didn't clear it, nobody would have cleared it. Landowners don't care, they live in Beirut*' (Mansoor, male, interview date 3 August 2010). Clearance generally, whether formal or not, was regarded positively. On commenting on the work of those who cleared Mashhur noted: *'I see it – this guy's work – as a good thing. He is putting his life in danger for a good cause'* (Mashhur, male, interview date 28 July 2010). In her discussion of village demining in Cambodia, Bottomley notes that deminers not only clear to the benefit of their own household; 'sometimes they also clear mines for other villagers when they find them in their fields or along paths and tracks to the forest. They don't get paid for this; they just do it to help' (Bottomley, 2003a, p. 826). Village volunteers, as they were termed by respondents, worked on a similar basis in 2006 in Sahnen.

A sense of duty and the support of others therefore appeared to accompany informal clearance. As well as being needed, it was also something that should be done or was instinctively done. Alongside addressing material need and generating safety, it was therefore community, household and individual values and beliefs that helped explain the narrative and network of informal clearance practice encountered. This is discussed further in Chapter 8.

7.6.5. The Role and Influence of Informal Clearance

Formal clearance is replete with structures and processes. Clearance is a formal, technical set of procedures involving trained specialists. The international standards (IMAS) to which this clearance must comply comprises a well established and understood set of norms that prescribes the start to end processes such as the surveying, marking and clearing of suspected land, the monitoring and evaluating of clearance activity, the safe destruction and

disposal of found items and the documentation of the clearance process. Clearance in this sense is neat and orderly.

Yet, on the ground the mosaic of clearance that developed within the field sites offers an alternative perspective. Formal clearance provision sat alongside other informal mechanisms. At the community level, a patchwork of clearance practices, performed by different clearance agents, developed that intersected and overlapped in space and time. The presence of informal clearance practice unsettled the assumptions underlying the research questions. 'Clearance' could not be taken as a uniform, standardised concept. It could not be used uncritically. Informal clearance practice had the potential to change the nature of engagement with, and role of, formal clearance. For a minority, it replaced accessing formal services. Indeed the fact that there had been contamination may not even be officially reported. As Fadi stated *'my household didn't benefit from clearance. I didn't say or call that there was a problem. I wasn't affected; I had dealt with it* (Fadi, male, interview date 23 July 2010). More commonly however, informal clearance acted as an initial step in opening up the space(s) of development. It facilitated access and enabled the return to work, even if limited. However it was regarded as an interim measure. It was not 'proper' and concerns for safety remained: The '*agency's clearance is scientific clearance. The clearance that I did wasn't scientific. I cleared, the expert came to detonate them and the agency came to clear properly. The clearance I did allowed us to get out to the fields, the clearance the agency [did] made sure it was safe'* (Adnan, male, interview date 23 July 2010).

Informal clearance can therefore be seen, in part, as a form of response to the limitations in the reach, capacity and access to the structures of formal clearance. The processes of formal and informal clearance were in this sense relational. Informal clearance helped households meet identifiable need. They also however acted as instinctive processes of community and household self-help and support; proactive engagement in the language of the preceding chapter. Rather than clearance being examined solely from the perspective of what it enabled, or facilitated, the very matter of clearance itself was noteworthy. The changes that resulted from formal clearance discussed in the chapter cannot be viewed in isolation. Instead they need to be situated against and adjacent to other forms of clearance. The presence of informal clearance, and the range of actors involved, simultaneously underscored both the vulnerability and resilience of the communities of Arrefir and Sahnen. It at once signified their exposure and susceptibility to political violence, the localised package of mechanisms they used to deal with its consequences, and how the drivers behind such

behaviour were emotive as well as material. The need to unpack and unpick 'clearance' therefore highlighted how the concepts of vulnerability and resilience worked their way through to the post-conflict context. Collinson et al (2002, p. 11) note that: 'In some communities, social capital is destroyed by conflict, in others it is strengthened'. Here, emphasis fell on the latter, and this reworking of social capital was intimately tied to both vulnerability and resilience.

7.7 Concluding Comments

The overall objective of this chapter was to examine what impact clearance had in the field sites on livelihoods and local development spaces. Following the discussion above, a number of points can be put forward in relation to this objective and the individual research questions posed at the start of the chapter.

To firstly consider whether clearance reworked, unsettled or transformed components of livelihoods; within Sahnen and Arrefir human, natural and financial livelihood capitals were stabilised and supported through clearance. These findings broadly align with the mine action literature. For some, clearance was linked to their decision to return and reside; it facilitated the resettlement of the displaced. Beyond this, for one family, it was also associated with supporting the ambition to settle, which was of particular significance after years of repeated movement. Clearance on agricultural land in Arrefir and Sahnen variably reworked the relationship between livelihood and production and livelihood, production and risk. Depending upon the decisions taken on whether to avoid, contain or confront contamination the impact of clearance varied in terms of supporting production. Differences in starting position fed through to sequencing to the manner in which livelihoods were supported. By extension clearance also facilitated financial recovery within livelihood, but there was variance to the characteristics and timeframes of recovery depending upon crops farmed. Overall therefore, the unsettling or depletion of capitals caused by contamination were under conditions of clearance, stabilised. In doing so, clearance provided a platform from which processes of recovery in livelihood and in the use of development space could commence, or commence safely.

Beyond livelihood capitals, the implications of clearance also extended to livelihood trajectories and pathways. This links to two research questions: How does clearance re-work

livelihoods and levels of livelihood security locally? And how do different groups or individuals populate the new development spaces created by clearance? For a minority of households the act of clearance corresponded to points of departure in livelihood: livelihood trajectories evolved. However, for the majority of affected households involved in the research, clearance was associated with processes of recovery and the return to normalcy. Whilst trajectories of livelihood recovery varied, the overarching pattern, or pathway, that emerged was reinstating the post-contamination state. This is not to the exclusion of difference however. In the main, contamination and clearance therefore linked to an unsettling and then re-establishment of previous livelihoods, rather than their significant reworking. This applied to use of land and how land was populated by different groups and individuals. For the majority, they did what they did before but safely and tried to regain lost ground. As found with regard to engagement with contamination, these responses can be framed in the language of resilience; particularly resilience as return (to a larger degree) and resilience as transformation (to a lesser degree).

Reworking of the components of livelihood fed through to supporting livelihood security. Clearance facilitated access to resources and income and effected physical safety and rights. This took the impact of clearance beyond the material concerns of livelihood and well-being and hence beyond established positions within the mine action literature. It also resonated with the research question on whether the benefits/disadvantages of clearance were equally experienced. As discussed in Chapter 5, contamination produced a geography of fear that operated at broader scales than that of the individual and household. At the community level concerns and fear were addressed or assuaged. Consequently, clearance impact was, in part, more generic in its reach. The attainment of a sense of safety was key, not only in its own right, but in generating subsequent impact. As well as supporting livelihood capitals noted above, it generated a level of certainty and assuredness, returned control and freedom(s). In this contested landscape, land was ‘freed’ not just pragmatically but figuratively. Livelihood security was then additionally supported through more intangible understandings of release from occupation, confinement and suppression. Just as the political was a key determinant to understanding the inhabitation and use of contaminated space, the political was also integral to the significance attached to clearance. It was emancipating. It facilitated the right and liberty to enact freedoms integral to the everyday. In this sense clearance also linked to supporting resilience as robustness, or resistance, to the organisation of dominant political relations.

This latter point requires further examination. Resilience as resistance was manifested in the very act of clearance. Clearance comprised a mosaic of overlapping and intersecting structures and processes, across a range of clearance agents that worked at different scales, in different ways, and to different ends. It has been argued that 'clearance' could not be taken as a uniform, standardised concept nor used uncritically. Informal clearance could change the nature of engagement with, and role of, formal clearance. Clearance impact therefore should not be viewed in isolation. In line with Roche's (1999, p. 21) definition of 'impact' used within the thesis, clearance impact could result from a 'series of actions' undertaken by different clearance agents. Consequently, the term 'clearance' needed to be unpacked and forms of clearance needed to be situated against each other. The very matter of clearance carried significance. It highlighted how vulnerability and resilience worked their way through to the post-conflict context. The outcomes of clearance not only reworked livelihood capitals, but the very act itself, when deconstructed, offered insight into social capital. This also included what clearance was not. Whilst clearance could offer protection, neither it nor others, could or did offer prevention. What clearance did not achieve, nor was remitted to achieve, was therefore as insightful as what it did.

To return to the objective of this chapter, clearance impacted upon livelihoods in the field sites through 'undoing' the costs associated with contamination. Clearance reworked, unsettled or transformed livelihood capitals, trajectories and pathways. Whilst a livelihood pathway of stabilisation and return to the pre-contamination state predominantly emerged, this should not be viewed to the exclusion of difference both between and within the communities of the field sites. Further the reach of impact extended beyond livelihood to concerns of well-being and conflict and violence, identity and sovereignty. This extends the discussion of clearance impact beyond established positions within the mine action literature that focus upon the economic and fiscal, human (both psychological and physiological) and peace-building benefits of clearance. The scope of clearance impact and the need to analyse the very act of clearance itself critically, unsettled the assumptions made in the research questions. The processes and practices that underpinned how development space was created by clearance, was also of interest. As with the impact of contamination, using the perspective gained through the concepts of resilience as return, as transformation and as resistance/robustness was useful in addressing these limitations. It enabled the commonality and difference in community responses to contamination and clearance and livelihood trajectories and pathways to be captured. This includes the very act of clearance itself. In line with Bourdieu's (1980) concept of habitus, it signified how the ways and means individuals,

households and communities encountered and acted out the everyday were not detached from the wider context they were situated within, but neither were they wholly determined by them. Whilst broader patterns to the impact of contamination and clearance on livelihood could be discerned, there was also differentiation. There were moulding forces and controlling mechanisms acting upon impact, which constitute the subject matter of the following chapter.

CHAPTER 8

CONTAMINATION, CLEARANCE AND IMPACT: DELINEATING FACTORS

'I have built my life here.'

(Nazih, male, interview date 10 August 2010)

8.1 Introduction

In realist terms, by removing hazard, clearance modified the risk environment. There was a change in environment that was ontologically independent of its subjective construction. Yet as seen, responses to contamination and clearance by households and individuals were not uniform in Sahnen and Arrefir. Impact was delineated and livelihoods were reworked and transformed to varying degrees. It is the aim of this chapter to examine this differentiation further. The chapter primarily considers the factors that may delineate the impact of contamination and clearance on livelihood, in line with the following research questions:

How can any variations in the impact of contamination and clearance on livelihoods, within and across the field sites, be explained?

- What controlling mechanisms operate?
- How may impact be moulded and how can this vary?

To commence, the chapter sets out the wider forces and processes that are understood in the literature to act upon and influence livelihoods, namely TSPs. Building on the introduction to TSPs provided in Chapter 2, what TSPs constitute, their analytical weaknesses and how they are perceived to shape livelihoods will be discussed. Thereafter three sets of factors – structural, subjective and relational - are put forward as potential explanatory variables to the delineation of impact. Collectively they highlight that the impact of contamination and clearance on livelihood needs to be situated beyond the components of the SLF and the household scale. Attention first turns to the structures and processes of mine action. It will be argued that the history, politics, policies, practices and praxis of mine action, globally, and within Lebanon, can act to control impact. This set of institutional, structural concerns can work to establish a set of parameters to what formal clearance can potentially achieve, as well as what is practicably attained on the ground. Moving from the macro-scale to the micro-scale, how subjective considerations may delineate impact is then discussed. Thoughts, perceptions and beliefs of the individual are argued to mould impact. Highly individualised characteristics such as risk perception, trust, awareness and aptitude, may differentiate how contaminated and cleared land were perceived and engaged with. Finally, the relational elements to livelihood are argued to form a final set of factors delineating impact. How livelihoods and everyday living are situated within, and are responsive to, wider processes of change are examined. It is argued that in the field sites, issues such as reworked residency patterns, livelihood diversification and the multi-local spatiality to livelihoods meant how livelihoods relate to time, place and space and each other are of note. Such processes, can act to differentiate the impact of contamination and clearance by modifying the role(s), purpose and significance of land.

Whilst the focus of the chapter is to understand why livelihood impacts may be delineated and differentiated, the discussion speaks to broader concerns. At its crux, examining impact incorporates an understanding of the capacity to act and the carving out and execution of development ambitions set against the production and reproduction of (uneven) social systems and geographies of development. The tensions of structure/agency and the global/local nature of livelihoods afford attention. How households and individuals negotiate and navigate such concerns is of interest here.

8.2 Analysing the Wider Forces and Processes Acting on Livelihoods

The livelihoods framework placed the micro- scale at the centre of analysis. Individuals, households and communities were the experts. It was inherently cognisant of agency and self-determinism. Yet, the significance of wider and broader structures and processes that act upon and shape livelihoods and livelihood choices were also acknowledged. Termed TSPs they are explained below.

8.2.1 Transforming Structures and Processes (TSPs)

Within the SLF guidance notes developed by DFID, TSPs are defined as the 'institutions, organisations, policies and legislation that shape livelihoods' (DFID 1999 section 2.4.1). TSPs are central to the playing out of livelihoods. Structures, or the 'hardware', comprise the public and private organisations, including civil society and NGOs, that amongst other functions legislate, implement policy and deliver services across scales (ibid). Processes, the 'software', incorporate the policies, legislation, 'rules of the game', markets, culture, societal norms and power relations. Processes shape the reach, deliverables, arrangements and everyday practice of structures (ibid).

Within the livelihoods framework, TSPs influence all areas of livelihood. They are significant determinants of access to, and terms of exchange of, capitals and returns on livelihood trajectories. TSPs link to vulnerability and resilience. They cushion external shock, create barriers to entry to pursue opportunities and enhance or undermine well-being. TSPs incorporate the 'routines, conventions and customs' that determine praxis (ibid). They have been critiqued however. Aid and the process of development itself appeared to be apolitical. As noted by Le Billion et al (2000, p. 24), particularly within insecure settings it is 'a major flaw to assume the possibility of "depoliticised" development'. Embedded hierarchies of power within TSPs were not unpacked (de Haan & Zoomers, 2005). The influence of power within livelihood is multifaceted. This includes the performance of social relations. As de Haan (2005, p. 13) notes: 'The classical notion of power - *sovereign power* in Foucault's wording - is the kind of power one often thinks of: the power one can possess, the power over people'. Yet there is also 'disciplinary power' namely power that is 'unquestionably accepted as truth that cannot be possessed, but exists only when exercised. This is the power that makes the bondman accept serfdom or women accept a subordinate gender role' (ibid). Power

therefore also infiltrates the workings of institutions, as captured within the 'hardware' or structures of TSPs. The negotiation of power relations should form part of any institutional analysis within the livelihoods approach (de Haan & Zoomers, 2005, de Haan, 2005).

With time therefore the conceptualisation of TSPs has been refined. DFID itself changed the terminology to Policies, Institutions and Processes (PIPs); a more inclusive concept that incorporated social relations, social and political organisation, governance, service delivery, resource access institutions and policy process (DFID, 2001)[45]. Within the adapted livelihoods framework used in this study, the inclusion of culture, ethnic and religious identity and their institutions, different forms of governance, and processes such as militarisation, foreign intervention and aid inputs, acknowledge the processes of power and politics that livelihoods are set against and acted out within (Collinson, et al., 2002, Collinson, 2003).

Given the above, a discussion of contamination and clearance impact cannot be divorced from TSPs. TSPs help shape individual, households and community responses to contamination. TSPs constitute, sanction and locally shape the very acts of clearance, influencing how it intersects and influences livelihood. TSPs provide the formal and informal governance frameworks to clear, along with the understood set of societal norms and practices mine action works to and within. The impact of contamination and clearance on livelihood will therefore be, to some degree, shaped by TSPs. This understanding finds purchase within the mine action literature, although it may not be necessarily framed as such, as discussed below.

8.2.2 TSPs and the Shaping of Mine Action Impact

Within the mine action literature, acknowledgement is given to structural considerations that serve to enhance or hinder what can be, as well as what is, achieved by clearance. Millard and Harpviken (2000, p. 6) identify three principal constraints acting upon clearance:

[45] Given that the thesis uses the adapted SLF to situations of conflict and insecurity, and within this framework the terminology of 'TSPs' is retained, the term 'TSPs' rather than 'PIPs' is used within the thesis.

i) Organisational - capacity, resourcing levels, the extent and suitability of equipment;
ii) Natural – climatic and seasonal considerations and access to clearance sites; and
iii) Political - comprising security for personnel, political will to allow clearance and openess to access potentially politically senstitive locations.

Constraints acting upon what clearance does and achieves therefore sit both internal and external to the act of clearance, and its stakeholders. Recognition is given to the influence environmental, political, military, economic and social variables have on clearance. This feeds through to impact. The literature links the practice and praxis of clearance to a differentiation in impact. The choice and nature of the clearance task influences any change brought about, intended or not, positive or negative. Clearance of a community asset (such as common grazing land) will differ in impact to that of a household agricultural plot for example. Donors may channel funding into favoured geographic or sectoral areas that in turn shape the deployment of clearance agencies and any ensuing impact of their work (Harpviken, et al., 2003). Institutional processes around prioritisation and task selection are therefore understood to influence impact. Additionally the objectives of clearance (and hence intended impact) may transition with time. A focus on accident prevention immediately post-conflict, with time tends to shift towards supporting wider rehabilitation or development efforts (such as building or re-opening a school or hospital), and then again to more localised interventions (Millard & Harpviken, 2000). The temporal relation of clearance to conflict then also affects impact, as do operational considerations at the task site such as soil type, slope angle, climatic conditions and so on.

The above discussion provides an entry point to the remainder of the chapter. It highlights the range of variables both internal and external to mine action that are recognised as shaping impact. This is not only what potentially can be attained by clearance, but what is practically achieved. Building on this basis, and linking directly to the research questions set out in the introduction, the following sections consider the structural, subjective and relational characteristics of livelihood that were found to shape the impact contamination and clearance had. This is a broad ranging discussion. Its focus is identifying the potential delineating factors to impact, incorporating both direct and indirect considerations and influences both past and present at the time of data collection.

8.3 The Structural: Controlling Impact in Arrefir and Sahnen

Within Arrefir and Sahnen the controlling mechanisms acting upon impact on livelihoods related to the politics, policies and practices of clearance. The structures and processes of clearance, and the embedded hierarchies of power and politics they contained, shaped access to clearance services, as detailed below.

8.3.1 Establishing the Institutions, Structures and Frameworks to Clear

Rigg (2007, p. 41) notes that: '"the 'circumspective" needs to be informed by the "retrospective"'. In other words, 'the here-and-now of livelihoods...becomes truly meaningful only if it is informed by an appreciation of the historical circumstances and events that preceded it'. In the following section, historical patterns to the establishment and development of the Lebanese mine action sector and their influence on clearance and impact is discussed.

In terms of historical context, it was the Ottawa Convention on Anti-Personnel Landmines of 1997 and the Oslo Convention on Cluster Munitions of 2008, discussed in Chapter 1, that delineated the problem, defined the international policy framework and established the organising principles and remit of mine action. Although Lebanon has ratified the latter Convention but not the former, it nevertheless adopted the core principles established in Ottawa of the centrality of the State in the ownership, responsibility and organisation of mine action (Brinkert, 2003). Indeed until 2001 the Army was the sole clearance body aside from limited UNIFIL capacity in Lebanon's South.

Mine action as an entity emerged in 1990 with the commencement of demining by the LAF. This followed the signing of the Tai'f Accord that brought the end of the civil war, if not the withdrawal of Israel from the Lebanon's South (LMAC, 2008). From this point, the establishment and organisation of the sector began to take shape. The creation of the National Demining Office in 1998; the establishment of the Mine Action Coordination Centre South Lebanon in support of UNIFIL missions in 2000; and the approval of Lebanon's National Mine Action Policy in 2007 (ibid, NDO, 2008) all provided and helped determine the governance, structure, delivery and praxis of mine action. Collectively they constituted and

implemented some of the key TSPs (as conceptualised within the livelihoods framework) that shaped and continue to shape mine action in Lebanon, including clearance.

This historical perspective matters. Historical patterns to the capacity, reach and scope of Lebanese mine action fed through to the impact of its activities. This is particularly so for Arrefir where the main periods of return included those when the village was still under Israeli / SLA control. Consequently (re)settlement in the village pre-dated organised Lebanese mine action or occurred when the sector was in its infancy. This limited what formal clearance could achieve. There was little choice but self-reliance if lands or assets owned, used or accessed were contaminated. Recalling the self clearance of cluster munitions he undertook on his land, one respondent noted:

> '*In 1982 no Lebanese authorities were here because of the occupation...I was afraid but I had to do something to make it safe ...I had no other solution. The Lebanese authorities didn't exist and the Israeli authorities didn't care. Within one month it was all done.'*
>
> (Resident of Arrefir, male, interview date 5 July 2010)

Further, even after the structures and framework to mine action emerged, internal and external stakeholders highlighted the organisational limitations acting upon clearance services. In 1999, Landmine Monitor, a watchdog of Treaty implementation and mine action globally commented: 'The number of trained clearance professionals in the [Lebanese] Army is not adequate, which, coupled with limited material resources, hinders demining operations' (ICBL , 1999, p. 896). In 2000, the Army and UN also expressed concern:

> 'The Army states that it does not have sufficient resources for clearance, and that the technical skills of its deminers are not fully compatible with international humanitarian standards because they are based upon military methods. ...According to the UN, the Lebanese Army has about 200 trained deminers operating throughout Lebanon, but not yet in the South. The UN says the deminers are poorly equipped, with no mechanical means and only a handful of modern mine detectors.'
>
> (ICBL, 2000, p. 947)

Added to this situation were other challenges: Incomplete data on the extent and sites of contaminated land following the civil war; the 2000 withdrawal of Israel from Lebanon's South leaving the border zone and more than 80 heavily contaminated outposts; and mountainous terrain presenting operational challenges to clearance (ICBL , 1999, ICBL, 2000, ICBL , 2001). The historical picture is one of tremendous responsibilities and demands on the Lebanese mine action authorites, not necessarily matched by the required resources.

It is then understandable that within Arrefir, accidents followed periods of return. Innate knowledge on threats posed by contamination was not widerspread within the community nor advice readily available. The precise location of contaminated land was uncertain and the services to clear or communicate the dangers present were under development in terms of capacity, technical expertise and resourcing. In Millard and Harpviken's (2000) terms, organisational and political constraints served to hinder access to formal clearance services; it was at times impossible or at other moments limited. Limitations in the scale, scope and reach of formal clearance services helps explain the actions of respondents in Arrefir discussed in Chapters 5 and 6; why they avoided, contained or confronted contamination for reasons of livelihood and political security and sovereignty. For those whose livelihood trajectories evolved as a result, it also highlights that there is time sensitivity to clearance impact. Here, the inability to access formal clearance meant potential impacts of clearance in terms of livelihood support modified as livelihoods evolved or had dealt with their altered state.

8.3.2 Resource Access and the Market of Mine Action Aid

Although the above section highlights the influence the development of national mine action capacities has on clearance impact, it was not national stakeholders alone that shaped the reach and scope of mine action. Behind the service delivery of mine action was its financing, the levels and nature of which helped determine capacity and equipping, which in turn influenced deliverables. Notwithstanding the support for mine action that Lebanon itself provides and receives from other Middle Eastern countries, as Bottomley (2003, p. 52) argues: 'mine action has to be seen as a product of the West in terms of the ability to finance the sector, to define the nature and extent of the problem, and to provide the expertise and frameworks for action.'

Mine action in Lebanon has been, and continues to be, supported by external donors in a variety of ways: direct financing, in-kind contributions, technical assistance and so on. As stakeholders in the clearance process, donors exert considerable influence (Goslin, 2003). This includes the levels of funding available and the possibility of conditionality being attached to aid[46]. Funding is not guaranteed. Amounts and the form of support sit subject to the processes, policy and priorities that underpin the global 'allocation of donor resources to mine-affected countries' (ibid, p. 925). Levels may vary annually as donors respond and react to other pressures and agendas, both domestic and international, acting upon their finite budgets. Indeed within Lebanon, at the time of data collection, the funding picture was one of general decline. International funding peaked in 2002 at over US $41,000,000. After the 2006 conflict it amounted to US $32,000,000 as media coverage of the conflict kept the need for clearance high on the political agenda. Yet in 2009 donations had dropped to US $21,000,000, around half of former levels (UNDP, 2011, p. 16).

The very presence of an 'End State Strategy' in Lebanon, as discussed in Chapter 4, acts as an indicator of the financial insecurity of the mine action sector. Whilst end-state conditions remain, the interim plans it contains can be modified as circumstance and conditions dictate; conditions that 'may include finances, available personnel and assistance, available and changing technology, political and environmental considerations and other factors' (Bowness, 2005, p. 1). The 'End State Strategy' is plain in its lack of fiscal autonomy and the consequences of this are acknowledged in the accompanying Long Term Plan (LTP) for mine action. It states: 'As the government of Lebanon does not have an allocated budget for mine action...it is imperative that the LTP 2008-2012 contains goals and enabling objectives based on a realistic level of resource mobilization' (NDO, 2008, p. 7). Whilst it must be credited that donor funding has enabled significant amounts of clearance to occur in Lebanon, services implemented are necessarily tailored to fit into the external funding available.

In sum, mine action capacity within Lebanon is not infinite. It is driven by need on the ground but it is also beholden to external supporters. It sits within a much broader 'aid market' in which countries from the Global South seek international funding, primarily from the North. To paraphrase Power (2003) and Radcliffe (2005), there are material and discursive legacies

[46] For example in 2001 it was reported that following Israel's withdrawal from Lebanon's South, funding amongst certain donors was linked to Lebanon's adoption of the Ottawa Convention (ICBL , 2001).

of imperial and colonial encounters that still find purchase in North-South relations, development governance, policy and aid. This places limitations on what impact can be attained in terms of the reach and scope of available resources. Within the field sites this translates into how and why funding, and hence implementation, may be 'ad hoc and inconsistent' (Horwood, 2003, p. 25). For Arrefir it explains, in part, why sites within the village remain uncleared, a source of concern for villagers. As Farj summed up: '*[I am] upset that some has been cleared. Who knows when they will come back*' (Farj, male, interview date 8 July 2010). Whilst in Sahnen it explains in part why in the aftermath of 2006 in some instances it took time for formal clearance to reach respondents. All available capacity was deployed, whilst new donor funding was being mobilised and secured. Thus resource access and markets of aid comprise a controlling mechanism to impact. Lebanon's mine action programming is not wholly determined internally. Rather it is shaped by external actors and networks upon which it relies but over whom it has limited control. Set against this backdrop of finite resources, at an institutional level, decisions and priorities have to be made. This forms additional controlling mechanism acting upon clearance and impact, as discussed below.

8.3.3 Clearance Policy, Process and Practice

The policies and praxis of Lebanese mine action and their translation to local deployment directs what impact could be, as well as what was, achieved through formal clearance. Primarily two factors related to the technicalities, processes and procedures of clearance emerged as shaping clearance impact: The selection of sites to clear and the involvement of community members in the clearance process.

Goslin (2003) cites the sound prioritisation of clearance tasks, appropriate use of resources and the attaining of clearance objectives, as the mechanisms by which to improve the effectiveness of mine action operations. The choice, as well as ordering, of tasks is key particularly given Lebanon's End State Strategy of 'impact free' rather than 'mine free', whereby the decision to leave a certain of level of contamination uncleared is explicit. Whilst it may involve a variety of stakeholders, since early 2009 the ownership and responsibility for establishing clearance priorities and deployment is centralised with the LMAC/RMAC (Reeves, 2011). Prioritisation processes for clearance have come under critical review. In 2011 a review of the national mine action programme in Lebanon was undertaken by the UNDP.

Many areas of performance were praised, including the comprehensiveness and accuracy of baseline data on contaminated sites. However recommendations were levied at the processes of site prioritisation. The UNDP found the inclusiveness and degree of transparency on the prioritisation procedures of tasks problematic. As they stated: 'Communication is weak at all levels. At local level, local authorities are not consulted, the prioritization of tasks is based on information collected by the programme and stored in the centralized database, decision are made with inputs from army intelligence services' (UNDP, 2011, p. 33). The political and economic pressures exerted on national authorities in their priority setting also finds resonance with other authors (see Goslin, 2003).

Prioritisation policies and processes direct the deployment of clearance capacities. The selection of clearance task - a road, a school, a home, an agricultural plot - directs impact. The impact an individual agency (such as MAG) may achieve through clearance, can therefore be defined in the first instance by a set of prioritisation processes that an agency works within. The everyday praxis of clearance may involve the submission of a centrally controlled selection of task dossiers to the clearance agency that is then deployed to clear those sites. This immediately attributes a set of parameters on what impact might be attained. Much of the discussion in the preceding chapters concerned the contamination and clearance of agricultural land and therefore the implications for natural capital, production with risk and so on. If MAG had been assigned to clear other types of sites, impacts would have differed. When considering impact, the context and purpose to clearance therefore needed to be accounted for, alongside the policies and policy priorities that emerge.

In terms of the ways in which processes around prioritisation are taken, Goslin (2003, p. 926) asserts that the beneficairies of mine action, and arguably its primary stakeholders, are often the group least able to exert influence in priority setting for clearance. When asked whether clearance created any tensions within the village, the overwhelming response, within Sahnen was that it did not. Indeed within Sahnen generally, there was a level of understanding and acceptance of the order of clearance. This corresponds to the findings of Reeves (2011). This was particularly so in the immediate aftermath of the conflict and the priorities for clearance that were established of homes before agricultural plots and so on. However, some felt that there was a lack of involvement with the decision making surrounding clearance. Aziz noted that '*the agencies used to take tasks from the Lebanese Army: the villagers didn't decide*

anything' (Aziz, male, interview date 23 July 2010). There remains a danger that the process could be perceived to be detached from members of affected communities.

This may have a number of consequences for clearance and its impact. Firstly, such sentiments may undermine genuine efforts made by the sector to make the process more inclusive; processes of surveying, impact assessment, prioritisation and community liaison are undertaken to enable targeted clearance that generate impact. As Reeves (2011) found, there can also be a lack of clarity of the sites of cleared and uncleared land, or the nature of clearance that has occurred, surface or sub-surface. Witnessing sites that had been cleared (surface) being re-cleared (sub-surface) caused confusion. As a respondent in Arrefir requested, it would be beneficial to hold a: *'Small celebration that this land is cleared of mines and invite villagers to it...I want to know what is dangerous and what is not dangerous. Can this request be passed on?'* (Hakim, male, interview date 5 July 2010). Aside from obvious safety concerns, such instances not only undermine opportunities for targeting clearance to maximise impact, but also undermine impact on sites that have been cleared.

To link the above discussion back to the research questions and the controlling mechanisms acting upon impact; at the onset of the chapter it was noted that a discussion of clearance could not be divorced from TSPs. TSPs constituted, sanctioned and shaped the very act of clearance. Formal clearance is replete with structures and processes internationally, nationally, and locally across a range of stakeholders – international donor, national mine action authority, mine action agency. This 'policy environment can be both a source of resilience and vulnerability for households' (Lautze and Raven-Roberts, 2006, p. 395). This was found within the field sites. The instances above serve to illustrate how institutions and their policies, working at different scales, can act as limiting factors on impact. As Millard and Harpviken (2000, p. 9) comment: 'The extent to which an intervention will have an impact is not only a reflection of the inherent impact of landmine removal (i.e. accident reduction), but is also dependent on the manner in which the intervention is conducted'. Taking this in the broadest sense, the history of the development of mine action within Lebanon, politics, and practices of international funding and the policies and praxis of Lebanese mine action can delineate impact. In line with the work of de Haan and Zoomers (2005), Rigg comments that with regard to power and politics 'assets and endowments are not there for the taking, but are selectively accessed or awarded according to prevailing systems of political and social relations' (Rigg, 2007, p. 35). Here across scale, political and social relations helped determine

access to clearance services. This in turn shaped the presence, levels, speed, priorities and the barriers to entry of clearance provision.

8.4 The Subjective: Moulding Impact in Arrefir and Sahnen

Whilst institutional concerns of different scale can shape and act as limiting factors to impact, how contamination and clearance is encountered and perceived on the ground is also a contributory factor. This will be explored below in detailing how clearance impact in Arrefir and Sahnen was also moulded by a set of actions, perceptions and beliefs that sat at the micro-scale.

8.4.1 Trust and Confidence in Clearance Practice

Dunn (2008, p. 697) notes that 'individual institutional relationships take centre stage in the context of environmental hazards'. Further: 'Trust can be explored in relation to a number of different "target elements": notably trust of information, institutions, and individuals' (ibid, p.697). Amongst others, issues of trust and confidence in the 'information, institutions and individuals' of clearance process and practice moulded impact. Across both field sites three themes emerged as promoting confidence and trust in clearance. Two related to the structures and processes of clearance: the visible display of technology and technical skill (the use of mechanical assets for example); and the professionalism of the clearance teams. Whilst the third related to clearance's material outcomes and the use of land post-clearance without incident, namely 'self-confirmation' as termed by Durham (2010, p. 37).

The factors that served to undermine confidence in clearance also related to these themes. Different agencies re-clearing the same site and the lack of maps undermined confidence. Likewise if agency staff expressed doubt about the clearance status of land, warnings were heeded. If land was not 'self-confirmed' and items were found subsequent to clearance, confidence was eroded. The other factors undermining confidence related to prior experience on that land particularly if there had been an accident, the sheer numbers of items there were to clear, and the residual doubt of the unknown. Adib and Wafik summed up how confident they felt about clearance as follows: *'[I am] not completely confident that it is now safe. 90% sure it is clear but ...there might still be something there because [they are]*

clearing without a map, [or] some mistakes may have happened: not on purpose but it happens' (Adib, male, interview date 7 July 2010). '*[I] feel 90% that the land is safe, [the] other 10% depends on God*' (Wafik, male, interview date 8 July 2010).

Within this, there was a role for trust. In risk environments issues of trust, from a variety of sources, are readily encountered: 'if all situations were devoid of uncertainity, there would be little need for trust' (Millard, et al., 2002, p. 168). Trust in the sources of information are understood to exert infleunce in the perception of risk, particularly where conflicts of interest are present (Baker, et al., 2009, Nathan, 2008). Studies within the mine action sector have highlighted the significance of how information is shared with a view to building trust in clearance. Here 'reliance on one-off handover events, result in a lack of local confidences in clearance' (Millard and Harpviken, 2000, p. xiv). Generating trust in clearance, it is argued, should be viewed as a process, an active dialogue, rather than a designated event. The work of MAG's community liaison teams in building relationships with affected communities has been linked in internal assessment to higher levels of trust in the organisation's clearance comparative to other agencies (see Reeves, 2011). In this sense impact is not only related to how clearance is approached and undertaken from a technical standpoint. It also relates to trust at the inter-personal and organisational levels (see also Millard, et al., 2002). Trust can be moulded by more intangible concerns of communication, a sense of ownership, the strength of relationships and so forth. How clearance agencies and mine action authorities approach and undertake the non-technical elements of deployment may affect the understandings of threat held by households and the confidence in any clearances that follow. These factors can help determine the degree to which cleared areas are subsequently used.

8.4.2 Risk Perception, Contamination and Clearance

Accompanying issues of trust and confidence was that of risk perception. 'Venturing into an area that is suspected of being mined, or an area that is presumably cleared of mines, not only requires a mere weighing of risk, but also accepting an extreme sense of vulnerability' (Millard, et al., 2002, p. 168). Throughout the thesis, situations whereby respondents have placed themselves knowingly in contaminated environments have been discussed. In Chapter 5, it was argued there was a knowing engagement with contamination or contaminated environments for reasons of livelihood security. Whilst in Chapter 6, proactive engagement

with contamination was associated with the generation and securing of political capital. In both instances there was a relational dynamic between perception of risk, the weighting of that risk against other vulnerabilities and livelihood activities. Here perception of risk again surfaced as a mechanism to differentiate how cleared land was engaged with and therefore the impact clearance achieved.

Trust and confidence fed into how perceptions of risk of cleared land may be diminished (through active use for example), or emphasised (previous incidence of accidents). However at times, irrespective of action, a residual perception of risk could remain. Risk perception filtered the objective realism of threat that contamination represented with the subjectively determined balancing of options and opinion. It comprised 'individual judgements under uncertainty' (Heijmans, 2001, p. 6). There was particular uncertainty expressed around landmines in Arrefir. Whilst for some respondents in Arrefir no distinctions were made between landmines and cluster bombs, both were dangerous, for others there were. Landmines and minefields were regarded as posing a greater threat than clusters bombs. Reasons for this varied: items were buried and unseen clearance of mines in the village was unfinished; and the explosions associated with mines were regarded by some as more severe. As one resident of the village stated, '*there is no place that can be 100% clear. Different agencies come and clear and still there is a minefield*' (Resident of Arrefir, male, interview date 12 July 2010). Another commented: *'The minefield? They cleared it but no-one dares go there'* (Resident of Arrefir, male, interview date, 17 July 2010). The historical imprint of risk that contaminated land represented was therefore not always automatically erased with clearance.

Risk perception is inherently subjective. Consequently for impact, outcomes may not be uniform or homogenous. 'Optimism bias' comprising the regular underplaying of risk to oneself is understood to act as a filter to belief and associated behaviours (Costa-Fontab, et al., 2009, p. 29). The literature highlights how the degree of regularity in hazard occurrence, gender, age, socio-economic status, knowledge and time are just some of the factors that differentiate perceptions of risk and the degree to which hazard is normalised and/or adapted to (see Heijmans, 2001, Bankoff, 2001, Baker, et al., 2009, Costa-Fontab, et al., 2009, Reeves, 2011). It is recognised that concepts of risk and vulnerability emanate from Western discourses and the 'security paradigms' and levels of tolerance to risk of households in the Global South and North differ (Nathan, 2008, p. 350). Yet, as the situation in Arrefir above

highlights, there can be differences in individual perceptions and belief within the same locale. Within communities themselves: 'some find certain events or situations unacceptably risky and will do their utmost to avoid being involved, while to others the same events may offer exhilaration and thrills ...There may even be others to whom the particular event is a non-issue' (Young, 1998, p. 14). Indeed, as Williams and Dunn (2003) found within contaminated communities of North-West Cambodia, it is 'perceived' threat rather than the 'real' threat posed by landmines that links to geographies of land use. How the risk attached to once contaminated, now cleared, land is perceived is then critical to understanding the use made of that land and hence the impact clearance attains.

8.4.3 Suspicion and Speculation as a Barrier to Access

Whilst clearance was generally praised and thought of positively, for a minority of respondents it was misconstrued. Witnessing the deployment of teams to clearance sites in their community whilst not necessarily being fully conversant with the reasoning behind their selection could result in misunderstandings. Exemplifying the potential for confusion Talal stated '*I understand that they don't clear old contamination only newly contaminated [land]*' (Talal, male, interview date 15 July 2010). Similarly Naji noted: '*There was a community meeting about clearance but I didn't attend because I thought it was a stitch up'* (Naji, male, interview date 28 July 2010). As Durham (2010, p. 37) found in Laos 'people who do not request clearance for individual household use tend to be those who are relatively poorer with lower self-efficacy (e.g. do not believe their request will be responded to)'. In this sense misinformation created barriers to entry for service provision.

Misunderstanding also fed into speculation. As highlighted by Collinson et al (2002, p. 15), rumour can be readily encountered in insecure settings: 'In a traumatised or conflict-ridden society, real or imagined threats, grievances or violations may be as significant as any objective differences in wealth or political or military power'. Moreover even when subjective and unfounded, they may nevertheless hold traction (ibid.). Here speculation was associated with 'connections'. 'Connections' were perceived as being influential in a variety of ways: they helped gain compensation for financial loss from the conflict; were used to gain access to land; or enabled a farmer to get a good price for his crops. They were also perceived by some to influence access to clearance services: '*I started to construct and found some clusters. [I] phoned [the] police who took photographs but no-one came. Maybe [you] need*

good connections to get land cleared' (Arrefir resident, female, interview date 9 June 2010). Ghassan, whose farm was contaminated noted: '*We didn't ask for clearance. If they come we will benefit. If they don't we don't. You need connections'* (Ghassan, male, interview date 9 July 2010). In this sense levels of social and political capital of a household were thought to influence the delivery of clearance services amongst some respondents. As Collinson (2002) highlights, to counter rumour it is important to be transparent in decision making regarding the delivery of aid. Similarly here, open disclosure on what sites are being cleared, why and in what order could help mitigate some of this rumour and speculation. In terms of clearance impact the validity of the grievance is to a degree irrelevant. The danger is feeling unable or ineligible to access clearance services.

8.4.4 Awareness and Aptitude

As analysed in the previous chapter, irrespective of the actions of mine action authorities to warn of the dangers of clearance there was clearly the impediment and/or willingness to do so within the field sites. As noted by Dunn et al (2011) with regard to health risk behaviour, irrespective of institutional regulations there can be issues of 'non-compliance'. Further the reasoning behind this behaviour can be mapped to the 'reality' of local livelihoods (Dunn, et al., 2011, p. 415). The presence of contamination led to a mosaic of overlapping and intersecting practice**s** and praxis of clearance. Informal clearance was driven by need and vulnerability. Yet as found by Dunn et al (2011) with regard to bed net usage in malarial southern Tanzania, socio-cultural values and practices also led to health risk behaviour: In this instance the protection and defence of country, community and family. Informal clearance, was something that should be done, or was instinctively done, as well as something that needed to be done. Limitations in the reach, capacity and access to the structures of formal clearance (as discussed above) did drive such behaviour. Yet informal clearance by village volunteers, friends, family and acquaintances was also facilitated by latent characteristics of the population that were drawn upon as need arose. Termed awareness and aptitude they are discussed below.

In terms of awareness, exposure of respondent households to insecurity was omnipresent. Livelihoods had reacted to, or had been enacted within, a militarised landscape for years or decades. Engagement with or immersion in such an environment left an imprint on knowledge and understanding of contamination. There was an in-situ knowledge and

pragmatic outlook towards dealing with its presence. In the language of Andersson et al (2003, p. 875) there was an 'endogenous response' tailored to local circumstance, social norms and perceptions of vulnerability that collectively contributed to 'indigenous mine smartness'. As they state: 'similar to the idea of being "street smart", this expression refers to an adaptive attitude and behaviour informed by subjective norms, agency and knowledge of specific local risks, as well as general know-how' (ibid, p. 874).

Deliberate engagement with contamination and clearance stemmed, in part, from this general know-how. Indeed, as already noted, the very absence of military experience was cited by one respondent as to why he ruled himself out of any self-clearance. There was not only an awareness of the issue to be dealt with; there was also the perceived ability to do so. As Gabir stated; '*In the 1982 invasion I saw how the UN treated the cluster bombs so [I] knew how to be careful*' (Gabir, male, interview date 6 August 2010). However, in addition, informal clearance also drew upon knowledge and skill-sets that specifically materialised from the political economy of war. As Skåra comments; 'in post-conflict societies, most existing local capacities are related to war and survival during times of conflict' (Skåra, 2003, p. 839). In her study of Cambodian village deminers, Bottomley, highlights how: 'village deminers do possess a certain degree of localised knowledge about mines, mine deployment and mine clearance, derived from their experience as soldiers' (Bottomley, 2001, p. 31). Similalrly, military experience and skills were cited by village volunteers as to why they cleared. In the words of one village volunteer who stated he cleared 1400 clusters from the village: '*Why do it?.Strong, courage, experience, [a] livelihood previously in war*' (Salim, male, interview date 27 July 2010).

In retrospect however, acts of self clearance were looked upon with mixed feelings. As seen within Chapter 7, for some it was a source of continued pride. For others there was incredulity; '*[I] now think I was crazy to do this. I have seven children to look after*' (Mansoor, male, interview date 7 August 2010); '*Now looking back I would never repeat what I did. It is all in the hands of God but I am not ready to lose any part of my body for some foolish action. My household relies upon my income* (Jalal, male, interview date 3 August 2010). Caught in the moment, some respondents reacted spontaneously to a specific threat without fully embracing the potential ramifications. Yet whether hindsight brought emotions of accomplishment or disbelief, a sense of duty drove such actions. These values, when added

to awareness of the issue at hand, and belief in one's capacity to act to alleviate the situation, help explain the presence of informal clearance practice.

To draw the above discussion together, section 8.3 illustrated how clearance impact may be directed by the structural. It highlighted how institutional concerns may influence the scope, reach and praxis of mine action. These factors shaped impact through establishing the parameters to formal clearance and hence what it could potentially achieve. Whilst influencing the local context of clearance, they had their source at larger and broader scales. This section, in contrast, sought to bring into the consideration the subjective, the thoughts, perceptions and beliefs of the individual. Working with contaminated affected communities in north-west Cambodia, Williams and Dunn (2003, p. 408) highlight how 'spatial accuracy does not necessarily equate with local realities'. Namely official data of what is cleared and uncleared does not automatically reflect how land is perceived and used. Similarly within the field sites, whilst clearance may deliver tangible change in the risk environment, impact was neither automatic nor uniform. Rather, individual, household and community characteristics could mould how the processes of clearance and its product of cleared land were understood, experienced and engaged with. Clearance impact on the ground may therefore be delineated by highly individualised concerns such as trust, risk perception and speculation. This raises once more the relational dynamic to livelihoods. Livelihoods are not self-contained, isolated islands of activity and assets. They relate to each other and to processes of change. The presence of informal clearance for example related to wider political and social relations of the field sites. In the following, final, section of the chapter, the influence of broader processes of change and patterns of everyday living on the impact of contamination and clearance on livelihood are examined.

8.5 The Relational: Time, Space and the Shaping of Impact

For some respondents, land had been cleared, however in terms of livelihood (as opposed to well-being) clearance was not associated with change. It was not perceived to have opened up new opportunities nor reinstated a former livelihood activity. To understand the impact of contamination and clearance, there was the need to consider livelihoods and everyday living as acting within, and responsive to, wider processes of change. This is the focus of the following discussion.

Whilst the above sections operate at distinctive scales, the section to follow does not. Centred upon issues of mobility it aims to give recognition to how livelihoods in the field sites, whilst analysed at the micro-scale, were situated within and responsive to broader, inter-scalar, transformations to everyday living. Livelihoods were multi-sited, or multi-scalar. Discussion will draw on understandings of mobility in two related areas of literature. Firstly, within the livelihoods literature, the recognition of mobility as a coping strategy and as both constituent and outcome of globalisation (see for example Bebbington, 1999, Murray, 2001, Adger, et al., 2002, de Haan & Zoomers, 2003, de Haan & Zoomers, 2005, de Haan, 2005). Secondly, within the political economy of conflict literature, how violence and war affect mobility in livelihood such as 'distress migration' (Devereux, 2001, p. 512) or restricted or controlled movement (Jaspers & O'Callaghan, 2010). In Arrefir and Sahnen, mobility led to multi-sited livelihoods. This in turn could differentiate impact of contamination and clearance on livelihood by delineating the role(s) that land performed. Yet, to understand mobility in Lebanon today, it is necessary to delineate patterns of mobility in the past. In other words, to place contemporary mobility in historical context, as detailed below.

8.5.1 Patterns to Mobility within Arrefir and Sahnen and Beyond

Mobility in Lebanese livelihoods is not new. Current patterns to mobility build upon links developed during the 19th and 20th centuries (European University Institute, 2007). Mercantile trading patterns, famine, instability and economic collapse post World War I, the labour demands of the booming Gulf economies and conflict have all driven mobility within the Lebanese population. Khalaf (2002, p. 318) writes that prior to the civil war in the late 1960s 'successive waves of displaced Shi'ite refugees were fleeing the chronically embattled villages in southern Lebanon'. During the years of 1975 – 2001, 1 million Lebanese emigrated (European University Institute 2007). Their destinations were diverse, with the most popular choices of Australia, North and South America, West Africa and Europe, reflective of older migratory patterns from Lebanon and prior to that the Levant (ibid). A further 1 million were displaced at some point in the conflict. At the end of the conflict the figure stood at 450,000, or 90,000 families. In 1991, 23% of the population in southern Lebanon was displaced, whilst 20% of the population of Beirut was that of the displaced (US Committee for Refugees and Immigrants, 1999). Latterly, an institutional framework that accepts dual nationality, and diaspora communities and networks have further enabled movement (European University Institute, 2007). Indeed it was only during the relatively stable and prosperous years between

the 1950s and the outbreak of civil war in 1975, that Lebanon's population stayed put (ibid). Mobility in Lebanon therefore has deep roots and both emigration and immigration continue to shape the present social, cultural and economic landscape of the country as detailed in Chapter 4. Mobility in Lebanese livelihood has a longue durée.

Unsurprisingly then, mobility was a feature of the lives and livelihoods of respondents. Mobility in the field sites took a number of forms: Episodic and short-term or continuing and long-term; displacement and forced movement within and outside Lebanon's borders; and voluntary movement to pursue employment opportunities. Further, there were those who wished to/had to stay during periods of conflict and occupation, as well as those who moved. Lebanon's history of hostility was a factor in this mobility, as it was in the late 20th century when the bulk of movement within the field sites occurred. Moreover, conflict and insecurity remained drivers to movement at the time of data collection. After the 2006 war, 76.7% of respondents in the governorate of South Lebanon expressed a desire to emigrate. The two primary reasons stated were a wish to secure their own future or that of their family (50.0%) and Lebanon's insecurity (25.3%) (European University Institute, 2007, p. p16 and p29). Lebanon's political and socio-economic situation were the next highest ranking push factors to movement (ibid.). In this sense mobility in Lebanon – past and present – echoes livelihood pathways in other middle and low incomes countries within the Global South, of transnational labour networks in an age of globalisation (Bebbington & Batterbury, 2001, Scoones, 2009a). Livelihoods are also increasingly mobile irrespective of conflict and violence. There has been 'rapid expansion of people's mobility' as can be seen in rural-urban commuting, temporary migrations for work and transnational migrants (de Haan, 2008, p. 8).

As a livelihood pathway of the Lebanese more broadly, mobility has consequences for the composition, location and workings of livelihoods. At a broader scale, increased harvest costs and reduced agricultural production within Lebanon have been one productive livelihood change associated with emigration (ESCWA, 2007). Given the focus of discussion, interest here lies in how these wider processes of mobility modified livelihoods as encountered in the field sites and the implications this had for the impact of contamination and clearance.

8.5.2 Relations of Place: Building a Life Outside the Home Village

A differential pattern to residency was found across the field sites. Within Arrefir residency in the village could be part-time. Some individuals or households returned to the village regularly or periodically, and retained land and homes in Arrefir, but their lives and livelihoods were not permanently based there. This was in line with the village's population figures discussed with key informants. 2,800 individuals were listed within the birth register (namely Arrefir was their family's home village). 1,707 were listed on the electoral register (namely over 21 and registered to vote in the village) (Direcorate General of Personal Status, 2010). Yet those who lived in the village permanently were estimated in 2004 to be around 500. The return of villagers to Arrefir at weekends, during holidays and for festivals were noted by key informants (interview date 3 June 2010). Respondents linked this situation to Arrefir's history of conflict and associated dispossession, long-term occupation and displacement; being forced to move to '*Beirut or abroad is why lifestyles have changed*' (Rabih, male, interview date 16 July 2010). By way of example, one resident left Lebanon in 1975 at the start of the civil war to work in Iraq and Saudi Arabia. In 1990, whilst the village remained occupied he returned to Beirut to start a business. In 2000 when Israel withdrew, he moved back to Arrefir, but with business interests elsewhere he did not live in the village permanently (resident of Arrefir, male, interview date 19 July 2010).

In sum, conflict changed the relationship with Arrefir for some residents. As discussed in Chapter 6, displacement altered relations and meanings attached to place. It modified and moulded what place meant and signified; how place resonated, in material and emotive terms, to livelihoods and well-being. There was an emotional and political desire, or even requirement, to have a presence in the family's home village. This meant alongside its permanent working residents, others remained working outside the village and returned at weekends or during holidays. The house and land in the village were regarded as the family home. Yet, practicably for some it was used as a second home. It was somewhere to rest and relax. Indeed Arrefir was home to retirees. In terms of occupation, retirees comprised the largest groups of respondents in the village at 26%. Collectively these points help signpost why land was not necessarily associated with production. One resident in Arrefir noted that: '*Those living in Beirut [are] not using the land. Only those that live here use the land*' (resident of Arrefir, male, interview date 5 June 2010). Conflict reworked residency patterns and for

some this meant that whilst livelihoods included Arrefir, they were no longer embedded within Arrefir.

Arrefir and Sahnen were contrasting villages. The population of Sahnen was listed by key informants as 2,200, yet only 733 were listed on the electoral role (Direcorate General of Personal Status, 2010). Therefore significant numbers resided in the village whose births were registered elsewhere. Further, the population was stable year round (key informant, interview date 21 July 2010). Indeed, all respondents in Sahnen resided in the village permanently and worked, none were retirees. Whilst Arrefir was subject to population decline, Sahnen was subject to population increase. As with Arrefir, households relocated due to conflict but whereas they relocated *from* Arrefir, they relocated *to* Sahnen. Sahnen had distinct social groups. Predominantly a Shi'a village, it had been a recipient of Sunni, Palestinian, Shi'a and Bedouin households fleeing conflict further south or the incorporation of their home villages into Israel (see Beydoun, 1992, Khalaf, 2002). Originally residing in five different villages in the vicinity of the Blue Line, these groups re-settled in Sahnen. Echoing the behaviour of Arrefir's non- permanent residents, whilst attachment to the home village and family lands remained for these groups, practicably, livelihoods had been re-located and re-established. This included social norms and customs. Residents originally from some Blue Line villages still, unofficially, selected a Murktah (mayor) to support and represent their sub-group within Sahnen. As Khalili found within the Palestinian refugee camps of Lebanon, there was a 'revival of practices' that the displaced brought with them to their new homes (Khalili, 2004, p. 9). As Nazih originally from a village on the Blue Line and now based in Sahnen noted: *'[I] will not be returning…I have built my life here'* (Nazih, male, interview date 10 August 2010).

In both instances, conflict and associated displacement disrupted and reworked residency patterns. With this there was a differential relocating of livelihood. Conflict appeared to initiate (if not necessarily sustain) livelihood change within both field sites. It relocated livelihoods from Arrefir, whilst Sahnen was in receipt of a re-establishment of livelihood from elsewhere. Impact was moulded by this transformation. For respondents from both villages, in terms of exposure to risk, household assets were not only affected by damage, destruction and contamination within Arrefir and Sahnen itself. Affects were felt across space. Transformed patterns to the loci of livelihoods could then act to multiply loss. It also

differentiated impact of contamination and clearance on livelihood due where productive elements of livelihood were based and what they comprised. This is discussed further below.

8.5.3 Multi-Local and Diversified Livelihoods

Within Sahnen, there were clear associations between employment and agriculture. As noted previously, incomes of 26 respondents (79%) were associated with agriculture in some form. Plots ranged from small home gardens to large commercial plantations. In the latter, land was often held by absentee landlords located abroad or in the vicinity of Beirut. The day-to-day running of the enterprise was handed over to a land agent who in turn employed staff on a permanent or casual basis depending on need. Even outside the sites of commercial farming, households were more likely to engage with agricultural production than in Arrefir, potentially employing permanent and/or casual staff. Employment was local, drawing in workers from Sahnen and its hinterland. Indeed, some households would have multiple, inter-generational, occupations in the sector. Eight respondents (24%) gained both primary and secondary incomes from agriculture; a common pattern being a daily worker and farming your own plot. Sons joined their fathers on their land or that of others. Consequently, due to the work patterns associated with land, the reach and penetration of contamination into the livelihoods of the inhabitants or those travelling into Sahnen was notable. Contamination and clearance could then affect multiple income streams and multiple members of the same household.

However, not all respondents in Sahnen gained income from agriculture: 21% (seven) did not in any form. Further, for 40% (13) of households agriculture was not the primary source of income. They were tradesmen, public servants, taxi drivers and so on. This was more evident in Arrefir. Changes in residency patterns, discussed above, were accompanied by an altered productive relationship with the village, including how land was used. As Rabih noted, '*if the people had stayed it would have been different. Before the war everyone used to farm*' (Rabih, male, interview date 16 July 2010). Yet, during and after the conflict, livelihood trajectories evolved. In comparison to Sahnen, the movement away from the productive use of land within the village was more significant. As Farj commented:

> '*Before most of the land was being used for tobacco. From [the] 1970s until now [there is] 70% less farming and tobacco. [They] switched their land. They*

> *switched their entire life. Switched products to wheat or olives, or used land to build a house on instead of farm on. Maximum 20% are now in farming full time. You can see looking around. Where are all the farms? [It is] just gardens.'*
>
> (Farj, male, interview date 8 July 2010)

In this sense there was interplay of different structures and processes acting upon livelihoods. In line with the literature, livelihoods could shift in response to the shock of conflict, but in the post-conflict landscape they were also shaped by wider processes of livelihood diversification and de-agrianisation. In Arrefir, the primary incomes of only three respondents (9%) were attached to farming. A further two respondents (6%) gained their primary income through herding. Farming or herding featured as a secondary income source for six households (18%), and cottage gardening for domestic use was readily encountered, as Reeves (2011) also notes. Income sources and employment within Arrefir were more commonly based outside the village. After retirees, public servants formed the next largest occupational group of respondents. The range of occupations amongst respondents was broad based: traders, businessmen, construction workers, shop and restaurant owners, amongst others, all featured. The locations of residential and productive life were not automatically proximal. As one respondent put it '*this village doesn't give me a penny*' (Afzal, male, interview date, 2 July 2010). Some respondents commuted to larger urban centres to work or worked overseas: Canada, China, Gabon, Germany, Iraq, Kuwait, Liberia, Saudi Arabia, the UK, the US and Zambia all featured as places of residency, study or work for respondents in Arrefir or their children. Livelihoods had not only moved away from being primarily farming based and had diversified, there were patterns of 'spatial dispersion': Livelihoods were 'multi-local' as opportunities were exploited and perceived threats were mitigated (de Haan, 2005, p. 9). As Chowers (2002) states: 'To be at home in modernity means to have many temporal (and spatial) homes – to bear their tensions, contingencies, relativities'. In the case of the field sites the spatiality of homes, and with it livelihoods, was a product of both wider processes of globalisation and the outcomes of conflict.

Multi-local, diversified livelihoods and the complexity in everyday living that it brings can sometimes get lost within more traditional associations between agriculture, land and labour that the mine action literature focuses upon. As de Haan notes (2005, p. 9): 'Large numbers of people are no longer rooted in one place: although they maintain relations with their home community, they are also attached to other places'. The composition, workings and

connections of livelihood across space has implications for impact. Whilst contamination and clearance may affect feelings of safety and the assets of a household more universally, their effects on the ability to work and earn will differ household to household in response to where and how income is secured. This affects both vulnerability and resilience. In terms of the former there may be multiple ways a household engages with land productively. Within households there can be a specialisation of livelihood in agriculture. This heightens vulnerability through increasing susceptibility to contamination's costs and the changes to livelihood this may bring. Conversely, diversified livelihoods can reduce susceptibility, providing in turn a form of resilience to contamination's productive impact. How livelihoods evolve, and the spatial patterns to living that this may involve, then need to be considered when examining impact. The spatiality of livelihoods and the role(s) land performs within livelihood could act to intensify or diminish the impact of contamination and clearance. Land can be regarded as integral to livelihood and well-being but its productive importance can also be reduced. As Afzal noted: '*[I am] not using land anymore. Life is outside the village*' (Afzal, male, interview date, 2 July 2010). How livelihoods are situated within and shaped by both conflict and wider circuits of production therefore can bear weight on considerations of impact.

8.5.4 Relations of Time: The Dynamism of Livelihoods

At the onset of this chapter, reference was made to how the temporal relations of clearance shape impact. Citing Millard and Harpviken (2000), the evolution of clearance objectives with time - from accident prevention immediately post-conflict to rehabilitation of public services to localised interventions - were set out, which necessarily directs impact. Time, however, appeared to influence and shape the impact of contamination and clearance in a number of ways, as explained below.

Within Sahnen, the timing of the conflict of 2006 was significant in the impact contamination had on production and income loss. July and August were key points in the agricultural calendar for the village. By high summer, banana and citrus crops were close to harvesting, whilst tobacco was in the process of being harvested and dried, and crops for the following season were being planted. Dependent upon species grown, income could be tied to one harvest per year. Harvesting was a critical time of year for the livelihood security of households involved with agriculture. HRW (2006) reported clearance authorities sought to

organise clearance activity around cultivation and harvest schedules. Time therefore moulded contamination's impact on livelihood, the formal clearance response, and what clearance could achieve. It shaped levels of income loss and the processes around site selection for clearance.

As noted above, in Arrefir, a combination of factors meant the role and significance land played in livelihood altered for some households. Length of displacement, accidents, perceptions of risk and the limited reach and scope of mine action at the time of return were prompts to livelihoods evolving in line with wider processes of change. Livelihoods are 'organic, shifting, fluid and contingent' (Rigg, 2007, p. 42). They are inherently dynamic, in states of continual reworking and transformation. Further, it is not just how and why livelihoods evolve that should concern us, but changes to 'the very bases of livelihood itself (ibid., p. 34). Time therefore has the potential to influence impact in two ways: As time bears influence on livelihoods, and the bases of livelihood evolve, it bears influence on impact. Additionally, the longitudinal relation of clearance to conflict can shape the impact that clearance has. In Sahnen, where clearance followed contamination relatively quickly, land was put back to the same use. In Arrefir where for a variety of reasons there was a gap between contamination and clearance for some, there was more diversity in the role land played in livelihood, and hence to the support to livelihood that clearance provided. In terms of impact, it therefore remains a consideration that livelihoods should not be viewed as static.

On a related note, and finally, time influenced impact through inter-generational considerations. In many ways this represented an accumulation of structural mechanisms, subjective aspirations and inter-scalar processes of globalisation and their associated mobilities, discussed individually above. The 'decomposition of households' and the increasing way in which livelihoods are 'individualised' are noted within the literature (de Haan, 2005, p. 6 and 7). As de Haan and Zoomers (2003, p. 358) argue: 'individuals are no longer organised as co-resident groups (that is, concentrated in space) but resemble individual nodes, connected to each other by social networks...Thus, peoples' lives become increasingly interconnected via inter-local networks, at different spatial scales.'

Within Arrefir in particular, the individualisation of livelihoods and the differential spatialities this brought to patterns of everyday living were evident between generations. Again,

explanatory factors to these patterns were found in the interplay of the outcomes of conflict and insecurity and wider processes of globalisation. In Sri Lanka, Korf (2004, p. 274), noted that: 'Many people have returned to their place of origin and have (re-)established some form of livelihoods during ongoing warfare'. This was also true in Arrefir. Yet there were generational patterns to these returns. Whilst older generations generally returned to Arrefir or stayed during its occupation, this was not automatically the case for younger generations. Bassim called this a '*generational thing'*; '*older family members returned, younger generation stayed overseas*' (Bassim, male, interview date 13 July 2010). Baahir also commented that within his family '*in 1985, all [the] children left and [the] parents stayed as the Israelis came'* (Baahir, male, interview date 16 July 2010).

Such inter-generational patterns to mobility and residency due to conflict are noted elsewhere in the literature. In Bosnia, Ó Tuathail & Dahlman (2011, p. 255) comment how 'demographic evidence confirms our observations that young families are reluctant to return...By extension the returnee population is disproportionately older and supported by pensions or gainfully employed families living elsewhere'. Support was received by households living in Arrefir from wider family networks. Further, as already discussed in the thesis, parents actively sanctioned and facilitated the movement of their children overseas for reasons of security and a perception of improved prospects: both their own and those of the wider family. Therefore although connections to the village were retained, property was restored and land purchased to build upon, the relationships of different household members to the village were not necessarily uniform. This links into broader processes of household change. As de Haan (2005, p. 9) notes, whilst household decision making occurs, the autonomy of individual household members within this is also noteworthy. There is not 'some kind of a "household board meeting" about which income opportunities to explore or resources to allot'. Households need to be recognised as units of individuals that whilst subject to the same dispositions in the words of Bourdieu (1980), or whose responses to livelihood opportunities (and threats) get channelled into understood societal norms in the understanding of Giddens structuration (1984), nevertheless hold and pursue their own individual ambitions.

Collectively the above discussion describes how livelihoods are situated within wider circuits of production and processes of change. Livelihood trajectories and pathways respond to alterations in wider circumstances (be it military, economic, social etc) and the opportunities

and threats this may bring. Interest lies therefore in relating and connecting local livelihoods to wider transformations to everyday living. Within the mine action literature attention is drawn to how livelihoods are shaped by conflict, specifically contamination. Yet, the above discussion illustrates how livelihoods in the field sites were not shaped by conflict alone, nor the presence of contamination. They also reflected wider processes of social and economic transformation, such as the 'decomposition of households, 'income diversification' and 'spatial dispersion' (de Haan, 2005, pp. 6-9) that accompany globalisation more broadly. Therefore whilst associations and relationships between land and labour may remain, livelihoods should not be viewed as static. Livelihoods and households evolve and this may lead to alterations in the role(s) land performs. The impact contamination and clearance has on livelihoods therefore needs to be considered in light of the dynamism of livelihood. Understandings also need to be attuned to issues of scale; looking beyond the unit of household and being sensitive to the inter-scalar processes acting upon livelihoods.

8.6 Concluding Comments

The focus of this final empirical chapter was to identify the potential delineating factors to impact, incorporating both direct and indirect considerations and influences both past and present. It sought to understand why the impact of contamination and clearance on livelihoods within the field sites varied within and across the two communities. Structural and relational considerations of livelihood alongside the subjectivities of the individual have been put forward as controlling, shaping and moulding the impact of contamination and clearance on livelihood.

Structurally it has been argued that there are limits and controls placed upon clearance impact that are embedded within the institutions and practices of mine action. Within the field sites, and in line with the wider literature, the processes and timelines of establishing the mine action sector and its structures; the role funding stakeholders in Lebanese mine action played in shaping the extent and content of implementation; and the policies of Lebanese mine action and their translation into field level praxis; may act as limiting factors and controls to impact. Notions of power and politics are implicit here, working across scales. Political and social relations can help determine access to clearance services, from political agendas and priorities within global markets of aid to how clearance services are requested.

As Cliffe and Luckham state, aid is 'never politically neutral' (2000, p. 302). The instutions, governance, policies and practices of mine action from the global to the local, form part of the TSPs acting upon livelihood in contaminated environments. These factors shaped impact through establishing the parameters to formal clearance and hence what it could potentially achieve. In constituting, sanctioning and locally shaping the very act of clearance they influenced the presence, levels, speed, priorities and the barriers to entry of clearance provision.

However, even when acting within established parameters, the impact contamination and clearance has on livelihood is not uniform. This brings into consideration a second set of TSPs acting upon livelihoods that in turn shapes impact. Livelihoods and everyday living are situated within, and are responsive to, wider processes of change. There are broader, inter-scalar, transformations in the composition, positioning and relations of livelihood that differentiate impact by modifying the role land plays. Within the field sites a range of transformations to everyday living were found, often centred on issues of mobility, namely: disrupted and reworked residency patterns; livelihood diversification; multi-local spatiality to livelihoods; decompositon of households; and inter-generational change. This highlights how livelihoods are continually reworked, assessing and responding to transformations in the broader landscape. There was an inherent dynamism and relational element to livelihoods and ways of living. How livelihoods related to each other, to time, space and place, helped explain the loci, composition and workings of livelihoods. This could also delineate impact as the purposes and meanings attached to land could vary between communities, households and the individuals comprising households.

Finally the impact of contamination and clearance on livelihood was also moulded by a set of factors that sat beyond the TSPs of livelihood. Indeed more associated to issues of well-being rather than livelihood, a consideration of the subjective, the thoughts, perceptions and beliefs of the individual were also found to be of note. It has been argued that impact may be delineated by a set of related but highly individualised concerns. A sense of duty towards informal clearance, that it is something that should be done or is instinctively done, awareness of the issue at hand, and belief in one's capacity to act to alleviate the situation, fed into a narrative and network of informal clearance practice. Informal clearance practice alongside issues of confidence and trust in clearance; perceptions of risk; and suspicion and

speculation; linked to how affected communities understood, perceived and used contaminated and cleared land.

To sum up, building upon the organisational, political and natural constraints Millard and Harpviken (2000) noted as acting upon clearance, Durham (2010, p. 38) states that 'institutional policies and practices, markets, the environment, seasons and livelihood diversification all shape clearance impact and the degree to which it can be sustained'. Within the field sites the impact contamination and clearance had on livelihood was differentiated and delineated in a myriad of ways. It linked to wider political, military, social, cultural, historical and economic processes and to individual aims, beliefs and perceptions. To understand variations in impact, analysis therefore needs to sit beyond the components of the SLF and above and below the unit of the household. Collectively, structural, relational and subjective considerations of livelihood, well-being and mine action controlled, moulded and shaped impact. These variables highlight the co-presence of structure/agency and the global/local and micro/macro in livelihoods. Whilst some of the discussion above operated at particular scales, inter-scalar processes and transformation were also of note.

Impact therefore needs to be attuned to scale. How processes at broader and wider scale variably impose on, interfere with, or are pursued within livelihoods is of interest. As noted in Chapter 2, understandings of contamination and objectives of clearance may transform across scale. International and national policy and programming objectives, blend with local complexities and realities and then again with experiences and perceptions of change on the ground. Accepting this has two implications. Firstly, impact in the field sites was delineated not only by the above, but by the platform it was being viewed from. Secondly, change in livelihood can occur due to contamination and clearance. Yet change in livelihood can also occur independent of contamination and clearance. When examining impact, the intersections and interconnections of these two points warrant investigation.

CHAPTER 9

CONCLUSION

9.1 Introduction

This research project emerged from the need for reflection within the mine action sector. Set against the 10th anniversary of the UN Treaty on Anti-Personnel Landmines and the adoption of the UN Convention on Cluster Munitions, the issue of 'impact' had gained import. Given the financial commitments and funding channelled into mine action globally, questions were asked of what had resulted beyond square metres cleared. Within mine action there was the desire or requirement to demonstrate impact. For some types of clearance intervention, such as in the immediate aftermath of conflict when accident rates peak, impact was relatively straight forward to discern. What was more difficult to ascertain was the impact of clearance within 'development' focussed interventions, whereby the key constraint of contamination was livelihood disruption (Millard & Harpviken, 2000). Within mine action it was understood that contamination and clearance 'closed'/'opened' or 'blocked/unblocked' development space. Yet, as noted in the Chapter 1 what did this mean? How did it relate to self-determinism, livelihoods, safety and security, resource and market access (Harpviken, 2003, Harpviken & Skåra, 2003)? Against this gap in knowledge a research problem emerged with both academic and applied rationale and resonance.

In essence, the thesis has aimed to capture how contamination and clearance link to livelihoods and livelihood change. As the research evolved the livelihoods that came under examination, were those of Arrefir and Sahnen in southern Lebanon. Both communities have sufferred from contamination: the former primarily from landmine and cluster munition contamination from Lebanon's civil war, the latter cluster munition contamination from the 2006 conflict between the IDF and Hizbollah. At the time of data collection, both

communities were still subject to episodic violence. The threat of conflict formed an ever present backdrop. As such the research was grounded within everyday geographies of communities that were not only conflict-affected, but continued to act out their livelihoods within a landscape of insecurity and instability.

In light of this background, in this final chapter to the thesis, the aim is to synthesise and draw out key findings and conclusions. This will start by returning to the research questions, under which discussion from the preceding chapters will be brought together. Following this, and working across the research questions, how the research findings relate to issues of policy and practice will be highlighted. Discussion will then turn to the contribution and limitations of the research, alongwith the identification of future avenues of enquiry. Finally, some closing remarks will be made.

9.2 Key Findings and Conclusions

This research has sought to address two primary objectives. One, methodological, evolved during the course of field work to focus upon whether it was possible to answer questions around impact in insecure contexts and what practical learning could be gained from the research. This was accompanied by an empirical objective that centred upon how alterations to the risk environment through the clearance of contamination reworked livelihoods and local development spaces. Under each of these objectives were a series of research questions. The discussion below draws the findings and conclusions of the research against the research questions in turn. Questions relating to how the research's findings inform policy and practice are considered within section 9.3.

9.2.1 How can any practical and ethical challenges of researching the impact of contamination and clearance in insecure contexts, with vulnerable populations, be addressed?

- What approaches to data collection helped to work within the field sites
- What research methods were best suited to capture livelihoods and the impact of contamination and clearance had on them

In sum it was possible to answer questions around impact within the field sites. Data were generated even under more challenging conditions. To be successful however required that the research be flexible and adaptable. This included a re-evaluation of not only research methods and protocols, but the methodological objectives and associated research questions. Overall the methodological framework of the research was reworked so that it was attuned to local conditions. Household semi-structured interviewing framed chronologically within the processes of conflict, contamination and clearance, evolved as the key method. This was used to acquire the perspectives of household members on the impact of contamination and clearance on livelihoods. The semi-structured interview schedule captured qualitative, quantitative and observational data that emanated from interviewing, surveying and oral history research methods. They were collated as being able to visit a household more than once could not be guaranteed, nor was this necessarily desirable. In this way the research adopted certain principles and practices on the ground that helped gain community confidence and acceptance. Purposive sampling through snowballing that started with village leaders and using research officers local to the vicinity, are two such examples. To help sustain acceptance, it adhered to the boundaries established by the security services in terms of its focus, content and location. It also recognised respondents' vulnerability and took its lead from them in how they participated. Finally to help generate data, research was undertaken quickly and lightly; work was intensive in windows of opportunity when refusals rescinded. It was also opportunistic. Opportunities to generate data and clarify understanding were taken from informal encounters to chats over dinner to gathering grey materials when permission to work was temporarily removed.

9.2.2 What biases and limitations result in the data, if any?

- How and why do data become compromised (if at all)
- What limitations surface in the data due to the way it has been collected?

Potential compromises and bias to the data occurred from the inability to feedback findings to respondents for corroboration in all instances, and how the arrival of outsiders in interviews affected respondents. Whilst using a number of snowballing strands helped avoid certain forms of bias, the research was channelled to particular groups due to when it was conducted, in summer, and where, as a consequence of the research project's affiliation with MAG.

There were also certain limitations to the data. Firstly there were limitations on the types and extent of data collected. Due to the time in the field and the field conditions the scope of methods used was necessarily curtailed. Initial plans aimed to undertake community profiling, semi-structured interviews, oral histories and use PLA tools and techniques, in turn generating a range of data types, quantitative, qualitative and so on. In practice, no PLA was used and survey, interviewing and oral history questions were combined within the one interview schedule. Consequently the quantity of data generated narrowed, as did the types of data to quantitative and qualitative.

Secondly, as well as generating data these methods were to be evaluated themselves for their usefulness in researching impact. In practice, the key data collection method was semi-structured interviewing. The ability to test different research methods as originally envisaged was limited rather than testing only observations have been made. Thirdly, limiting the range of methods used also limited sources of triangulation. Consequently data from householders was supplemented and triangulated with interviews/meetings with community leaders, householders outside the field sites and mine action stakeholders, along with other sources of data such as informal encounters, observational notes, grey material and secondary data. There was triangulation between the data provided by different householders as well as between different data sources.

The way the data were collected, imposed by the field conditions, also had implications on the types of conclusions that can be drawn. In the field, the most effective way to collect data was through snowball sampling. A robust sampling frame simply could not be defined; household and population registers were highly sensitive and day-to-day events upset the best laid field plans. As a result of the impossibility of adopting a robust sampling frame that might have permitted statistical analysis, the data cannot be used to make inferences to the wider population or to explore relationships between variables in a statistically significant manner. What can be done, however, is to reflect on the lived experiences, perspectives, opinions and beliefs of the respondents who were interviewed, situated in context. This allows the research to go some way to making sense of their world, thus permitting an exploration of the grounded, context-shaped experiences of contamination and clearance.

Yet, the challenges the research faced also brought opportunity. The above discussion represents the deliberate intention to be open and reflexive on the evolution of the research. Disclosure of this journey alongside the finished end product was necessary, as the former

very much shaped the latter. The research process was not neat and tidy. Yet, this meant the research protocol and methods became a point of interest and enquiry. The overall experience has been used within this thesis as a working example of 'doing development research': to therefore become a source of empirical and applied learning in its own right.

9.2.3 How does contamination impact upon livelihoods in the field sites?

- How is vulnerability affected by contamination?
- How is livelihood security affected by contamination?
- Do livelihoods in contaminated environments vary between different community subgroups, households and individuals, and if so why and how?

Four key conclusions can be drawn on the impact of contamination upon livelihood in the field sites: Firstly, contamination was associated with suffering and costs for households. It reworked livelihood security and vulnerability. Secondly, the impact of contamination on livelihood led to coping and adaptation mechanisms within livelihoods to deal with the 'shock' of contamination. Thirdly, the impact of contamination on livelihood was differentiated between households. Not all were impacted equally. Fourthly, and finally, the impact of contamination went beyond livelihood. It also spoke to issues of well-being and political vulnerability.

The costs of contamination on households were felt in the undermining of the physical, natural, human and financial capitals that comprise a livelihood. Further, contamination eroded various components of livelihood security: physical safety, resource access and income were compromised (the latter primarily related to blocked agricultural production). Contamination rendered land inaccessible, partially accessible, or accessible with risk. For those whose livelihoods were insecure and were unable to meet contingency need and ease shock through existing assets, vulnerability drove the adoption of risk behaviour. Indeed the differential ability of households to absorb shock acted as both driver and outcome of vulnerability. Contamination unsettled and reworked vulnerability, both in terms of exposure and susceptibility to risk. The effects of the former were broad based. Contamination heightened the risk exposure of the communities of Arrefir and Sahnen generally. The latter was targeted. Heightened risk was associated with particular household characteristics. The relationship between vulnerability and risk therefore worked in both directions.

The resilience and resistance inherent within livelihoods in the field sites was exemplified in the mechanisms of threat avoidance, containment and confrontation used to cope with, and adapt to, contamination. Respondents attempted to alter their vulnerability to risk through threat avoidance, whereby they sought control over both exposure and susceptibility to contamination. This included shorter term coping mechanisms such as altered patterns to mobility and daily activity. Containment coping mechanisms to smooth consumption and cover asset and income loss, helped respondents live with contamination and its consequences. Whilst respondents confronted contamination for three primary purposes: 1) as a mechanism of livelihood coping and adaptation, for example self-clearance to enable access to agricultural fields; 2) to take advantage of a new livelihood opportunities that accompanied clearance, such as employment within the mine action sector; and 3) as an act of resistance to defend and offer protection to one's family and community, and/or home and homeland.

Following on from the above, the impact of contamination differentially intersected with everyday living. The impact of contamination on livelihood and livelihood security was delineated and socially patterned. To start with, the type and extent of contamination varied by field site as a consequence of differing military and political strategies. This led to a perceived differential reach and penetration of contamination into livelihoods. Along with vulnerability, occupation also differentiated impact. Not all occupations were affected by contamination. Moreover within those that were, primarily those based in agriculture, effects were delineated depending upon the nature of employment, whether there were multiple occupations within the sector, the permanence and security attached to the role and the degree of self-determinism in being able to work. Size of plot and crop grown also differentiated monetary loss to a household from contamination, and how quickly production returned to former levels.

Household perceptions of risk also appeared to differentiate impact between community members. This brings into discussion considerations beyond the material elements of livelihood. The impact of contamination was also felt in terms of well-being and political vulnerability. Accidents brought regret, loss and a robbing of aspiration. Contamination brought with it a geography of fear. Further, it distilled down to a failure of the international system to offer safeguard. There was a failure to protect and a reduction to bare life. The very presence of contamination spoke to the powerlessness of respondents. Therefore, as well as contamination affecting vulnerability on the ground, it was also representative of and

reproduced political vulnerability at wider and broader scales. Consequently, risk behaviour constituted part of a wider landscape of resistance. Contamination was knowingly and deliberately engaged with to maintain a presence on the land.

9.2.4 What impact has clearance had in the field sites on livelihoods and local development spaces?

- How does clearance re-work livelihoods and livelihood security locally?
- Are local livelihoods, or components of livelihoods reworked / unsettled / transformed due to clearance?
- How do different groups or individuals populate the new development spaces created by clearance?
- Are the benefits / disadvantages of clearance equally experienced?

With regard to the impact of clearance on livelihood and development space, the following conclusions can be drawn. Firstly, clearance stabilised loss and the reworking of livelihood that had occurred due to contamination. Secondly, whilst clearance predominantly facilitated a livelihood pathway of return to the pre-contamination state, this should not be viewed to the exclusion of difference. The intersections of livelihood and clearance varied between households and between field sites. Thirdly, the reach of impact extended beyond livelihood, to concerns of well-being and identity and sovereignty. Fourthly, and finally, the matter of 'clearance' itself was of note. This suggests the need to unpack the very term to fully understand impact and speaks to the social and political capital of respondents.

Clearance brought benefits. The unsettling or depletion of capitals and livelihood security caused by contamination were, under conditions of clearance, stabilised. Clearance helped provide a platform from which processes of recovery in livelihood and in the use of development space could commence, or commence safely. Clearance on agricultural land in Arrefir and Sahnen unevenly reworked the relationship between livelihood and production and livelihood, production and risk. Clearance enabled return to production and income generation, or where production is already occurring, it mitigated risk. Clearance supported financial recovery albeit the timescales varied. Finally clearance was linked to return, residency and resettlement of the displaced.

The overarching livelihood pathway that emerged in Sahnen following clearance was a reinstatement of the pre-contamination livelihood state, rather than any significant reworking. For the majority, they did what they had done before but safely and tried to regain lost ground. Framed in the language of resilience, clearance therefore supported 'return'. This is not to the exclusion of difference however. There was variance in livelihood trajectories across both field sites, and hence, some livelihoods (issues of well-being excluded) did not come into direct contact with contamination or clearance. For others, the intersections of livelihood and clearance were more disparate. For a minority of households, clearance was associated with more transformative change in livelihood through providing gainful employment in the mine action sector. In this way the benefits of clearance could vary.

Yet, generally at a community level, the benefits of clearance were felt in terms of improved well-being. Clearance supported a regaining of livelihood security. It enabled access to resources and income but also physical safety. Eroding the fear associated with contamination and generating a sense of safety were significant. Fundamental in its own right, it generated subsequent impact. It produced confidence and assuredness, returned control. It allowed respondents to enact rights and enabled the exercising of freedom(s). In this contested landscape, clearance 'freed' land physically and figuratively. Clearance linked to understandings of release from occupation, confinement and suppression. Just as the political was a key determinant to understanding the inhabitation and use of contaminated space, the political was also integral to the significance attached to clearance. It was emancipating for respondents. It facilitated the right and liberty to enact freedoms integral to the everyday. In this sense clearance linked to resilience, or resistance, to the organisation of dominant political relations.

Resilience as resistance was also manifested in the very act of clearance itself. Clearance in the field sites was a mosaic of overlapping and intersecting structures and processes. It involved a range of actors working at different scales, in different ways, and to different ends. 'Clearance' could not therefore be taken as a standardised concept nor used uncritically. The very matter of clearance was of significance: it needed to be unpicked and unpacked. Forms of clearance needed to be situated against each other to fully understand impact. Further, networks of clearance practice highlighted how vulnerability and resilience worked their way through to the post-conflict context. Informal clearance spoke to the social capital and political vulnerability of respondents in Sahnen and Arrefir. This includes what formal

clearance was not: Whilst clearance offered and enabled protection, neither it nor others, could or did offer prevention.

9.2.5 How can any variations in the impact of contamination and clearance on livelihoods, within and across the field sites, be explained?

- What are the moulding forces behind the above and (how) do they vary? (What factors sit behind the findings and changes the data has revealed?)
- What controlling mechanisms operate in the risk context? (What are the structural issues?)

As noted in the discussion above, the impact contamination and clearance had on livelihood was differentiated. Three sets of factors were identified as limiting, moulding and shaping impact in the field sites: structural, relational and subjective. They incorporated political, military, social, cultural, historical and economic processes, along with individual aims, beliefs and perceptions. Consequently, to understand variations in impact, analysis sat beyond the SLF and above and below the unit of the household.

The instutions, governance, policies and practices of mine action from the global to the local, formed part of the structural considerations acting upon clearance. These factors shaped impact through establishing the parameters to formal clearance and hence what it could potentially achieve. They influenced the presence, levels, speed, priorities and the barriers to entry of clearance provision. In this sense the organisation of political and social relations across scale may help determine access to clearance services: from political agendas and priorities within global markets of aid to how clearance services are requested within the locale.

Impact varied in response to the relational dynamic of livelihoods that modified the purposes and meanings attached to land. The relationship between land, labour and production was delineated between communities, households and the individuals comprising households. This appeared to result from two sets of processes: The disruption to livelihood and patterns of living due to conflict, particularly in its consequence of displacement; and broader transformations to the socio-economic characteristics of Lebanese society. Reworked residency patterns, livelihood diversification, multi-local spatiality to livelihoods, decomposition of households, and inter-generational change could in turn alter the

productive use of land in livelihood. The loci, composition, workings and dynamism of livelihoods in assessing and responding to changes in the broader landscape, therefore afford attention in understanding impact. As well as changes in livelihood occurring due to contamination and contamination, they may also occur independent of it.

Finally, the subjective, namely the attitudes, perceptions, beliefs and values of individuals, households and communities delineated impact. How contamination was reacted to was shaped by wider political circumstance and an associated set of social and cultural values. The relations and meaning attached to place, in part, moulded the degrees to which, contamination impeded on daily life, or more accurately was allowed to impede on daily life. In terms of resistance and defiance, the appearance of 'normalcy' could be important. The drivers to cope with and adapt to contamination were grounded within the relational and emotive, as well as the material. The very acts of coping and adaptation held significance beyond 'getting by'.

Clearance impact was also shaped by subjective concerns. It was a sense of duty towards one's country, community, family and land that partly drove informal clearance practice that in turn could delineate the impact of formal clearance to follow. Further, emotions, beliefs and perceptions such as confidence and trust, perceptions of risk, and suspicion and speculation, linked to how individuals understood, perceived and used cleared (and contaminated) land. Thus objective change in the risk environment through the tangible removal of threat was filtered at the individual level. As Roche (1999) notes, it is important to recognise the subjective judgements inherent to impact assessment.

Whilst the above sets out the findings and conclusions of the research with regard to the research questions, what remains unanswered is how these points relate to issues of policy and practice. This is the focus of discussion in the following section.

9.3 From Research to Policy and Practice

9.3.1 How can the research's findings be translated to most usefully to inform operational planning and policy debate and direction?

- What learning can be drawn from the empirical research findings?
- What learning can be drawn from the methodological research findings?

How do the conclusions and discussion on the impact of contamination and clearance on livelihood, drawn together above, inform policy and practice? A number of points can be made here relating to: the purposes and interactions with land; clearance's beneficiaries and actors; understandings of clearance; the importance of 'the political' to contamination and clearance impact; and the effectiveness of the livelihoods approach to understanding impact, as detailed below.

9.3.2 Multiple Purposes and Interactions with Land

Within the mine action literature, impact is commonly associated with the ability to use land productively, be it for residency, for agriculture, for public service provision, for infrastructure and so on. When focussing upon livelihoods, discussions of land use tend to be bounded, associated with the land's primary user or owner. However the research has highlighted the potential for multiple interactions and purposes attached to land in livelihood, which go beyond such conceptualisations.

To highlight a couple of examples here: Some households have multiple occupations within the agricultural sector in the one locale. Within Sahnen one household member may be both a daily worker on a large farm and also have their own plot to farm. Moreover, more than one household member may work on those same farm(s). The impact that contamination and clearance had on livelihood may therefore be felt from different directions and different sources. Contamination could 'hit' income in multiple ways and clearance could help 'restore' multiple income streams. In a related manner a plot of land may have multiple users. In addition to the landowner there may be tenants, farm managers, permanent farm workers and casual farm workers –often including migrant workers, the most vulnerable populations. In addition that plot of land may have arrangements with external tractor owners to plough land, bee-keepers to house bee hives or with charcoal makers to cut down wood. The impact

of contamination and clearance may then spin out, touching different livelihoods in different ways. Focussing discussion upon the silo of the primary user or landowner, as is often reported, may miss this complexity. There may therefore be multipliers to the impact both contamination and clearance has on livelihood that at the moment are not fully engaged with.

9.3.3 Visible and Invisible Beneficiaries and Actors

Following on from the above, whilst the beneficiaries of clearance are regarded as the primary user or landowner, there are others who are less visible. This also includes those employed by the mine action sector itself. Further, it is not only beneficiaries who may be hidden but actors in the clearance process. Within mine action internationally, the only clearance that is counted (literally, in terms of square metres) is that of the formal sector: the army, mine action agencies, UN etc. Given the danger contamination poses and the international standards clearance must comply with, this is for good reason. On the ground however, as seen, there was a range of clearance practice. This was driven by material need but also community, household and individual political, social and cultural values and beliefs. Within Sahnen, in addition to those self-clearing for reasons of family safety or livelihood, clearance was undertaken by village leaders, political groups, technical experts drafted in by wealthy landowners, farm workers incentivised to clear, farm managers who felt a responsibility to clear and individuals who purposively sold clearance skills. Such practices of self-clearance raised three, related, issues. Firstly the parameters drawn on clearance; what it constitutes, who it includes/excludes, and why the boundaries are where they are. Secondly, the foundations to 'non-compliance' within informal clearance that lie beyond material concerns (see for example Dunn, et al., 2011). Thirdly, responding to the challenge 'informal' clearance practice lays down to 'formal' mine action.

This commentary is not new. Bottomley's (2003)[47] report on village demining in Cambodia highlighted the questions informal clearance raised for the mine action sector. Two have resonance here: the lack of interface and communication between informal and formal practice; and how informal clearance may indicate inadequacies in addressing contamination problems, both in terms of funding and the organisation of capacity (see Harpviken, 2003). As detailed in the empirical chapters, within Sahnen in 2006 there was an impediment and

[47] Undertaken in collaboration with UNICEF, Handicap International and the PRIO.

willingness to undertake clearance, irrespective of the potential consequences or the clearance regulations within Lebanon. The scale of cluster munition contamination overwhelmed formal clearance capacity. Even when it rapidly scaled up in the shadow of the conflict, it was still not sufficiently timely to prevent those affected pursuing substitute clearance options. There are no easy answers to this and this research does not answer the questions this raises. Yet, the experience of Sahnen highlights that engagement with informal clearance practice and the issue of what constitutes clearance have not been fully resolved.

9.3.4 Safe Communities and Understandings of Clearance

The research findings highlight that subjective perceptions and beliefs shape how cleared (and contaminated) land is engaged with. Irrespective of the objective change in the risk environment that clearance may bring about, that change is filtered at the individual level. As this may lead to differences in perceptions of cleared land the factors involved are of practical consequence. Three points can be made here.

First are the issues of trust and confidence in clearance. Along with the technical clearance process and 'self-confirmation' (Durham, 2010) post clearance, this can be influenced by more intangible concerns of: communication, ownerhsip, the strength of relationships and so forth. The work of MAG's community liaison teams in building relationships with affected communities has been linked in internal assessment to higher levels of trust in the organisation's clearance comparative to other operators (see Reeves, 2011). In this sense impact related to the technical and non technical elements of clearance. How clearance operators and mine action authorities approach the non-technical elements of deployment may affect the understandings of threat held by households and the confidence in any clearances that follow.

Also conducting research within southern Lebanon, Reeves (2011) found the potential for a lack of clarity on the sites of cleared and uncleared land, or the nature of clearance that had occurred - formal/informal, surface/subsurface and so on. This was also found within this research. Along with safety risks, this has the potential for undermining impact on cleared land. Processes around communication on the clearance status of a site is therefore of note. This is not only in terms of what information is relayed, but to whom it is directed and delivered. As found in Sahnen, information on contamination and clearance may be mis-communicated between different community groups and individuals, such as

employers/employees within an agricultural plot. It cannot be assumed that information will be relayed faithfully and in full to all those who come into contact with a contaminated site. How information is disseminated is therefore also a point of consideration.

Finally, when designing the research project, the perspective of 'safe communities' was adopted. What the contamination hazard specifically is, or was, was as significant as the presence of a hazard, the impact of that hazard pre and post clearance, and the processes around its clearance that influence impact. The research findings however, undermine this assumption. From the data, whether the contamination was landmine or cluster munition was of significance to some respondents. In Arrefir landmines and minefields were at times regarded as posing a greater threat than cluster bombs as mines were buried and unseen, minefields in the village were still not completely cleared, and the harm they could cause was thought more significant. The association of the minefield in Arrefir with accidents also left an historical imprint of risk that was not always automatically erased with clearance. What the contamination type is, or was, may therefore play a role in perceptions of clearance, and hence impact.

9.3.5 Don’t Underplay the Political

Throughout the thesis the significance of the political to the discussion has been underlined. In the insecure contexts of the field sites, political considerations were found to bear influence over households in a number of ways. For example, vulnerability to violent shock and the potential for contamination within Arrefir and Sahnen were grounded within wider political, military, social, cultural and historical processes and placed respondents within a wider geo-political frame. Land was not just for productive use or a financial asset, it was also territory due to political insecurity and a perceived threat of further conflict and occupation. How land was engaged with, contaminated or not, linked to an emotional attachment to place, home and homeland, alongside perceptions of risk and capability (that also spoke to social and cultural values and beliefs). The reach and remit of clearance linked to political priorities and negotiation at different scales.

Jaspars and Shoham (2002, p. 14) state that: ‘Commonly used livelihood assessment approaches generally do not incorporate a macro-level analysis of the processes that cause risk to livelihoods and political vulnerability’. The above highlights how the ‘vulnerability context’ box in the framework needs to be opened up and the interplay of macro-scale

processes on livelihood unpacked. Yet, beyond this, the research has illustrated that political considerations influence livelihood decision making, behaviour and action at levels within and below the SLF also. Moreover, the manifestations of the political, and the concerns of power that they encompass, highlight the relational elements to livelihood. To reiterate White (2010, p. 164) how: 'people become who and what they are in and through their relatedness to others'. This all adds weight to the critique of the absence of political concerns in the initial conceptualisations of the SLF. Further, in terms of practice it signifies how for meaningful analysis the multi-faceted reach of 'the political' into livelihoods needs to be engaged with.

9.3.6 Understanding the Impact of Contamination and Clearance on Livelihood A Nested Livelihoods Approach

Following the above, the degree to which the livelihoods framework was useful in understanding how contamination and clearance impacted upon everyday living in the field sites affords attention. In Chapter 2, the conceptual framework to the thesis of a nested livelihoods approach was set out. The use of an SLF grounded within the political economy to conflict and the concepts of livelihood discussed in the literature have clearly supported analysis.

To highlight a few examples:

- The concept 'shock' provided an entry-point to conceptualise how changes in livelihood, livelihood security and vulnerability may result from contamination;
- The use of ex-post and ex-ante coping and adaptation strategies gave a framework to analyse the mechanisms households enact in situations of 'shock';
- The undermining, stabilisation and recovery of households' assets such as land, income and productive capacity by contamination and clearance were given conceptual grounding through livelihood capitals;
- TSPs highlighted the range of processes influencing livelihoods in the field sites (and the research methods);
- Whilst livelihood trajectories and pathways provided the means to conceptualise how clearance may rework livelihoods and how patterns to any reworking may exist.

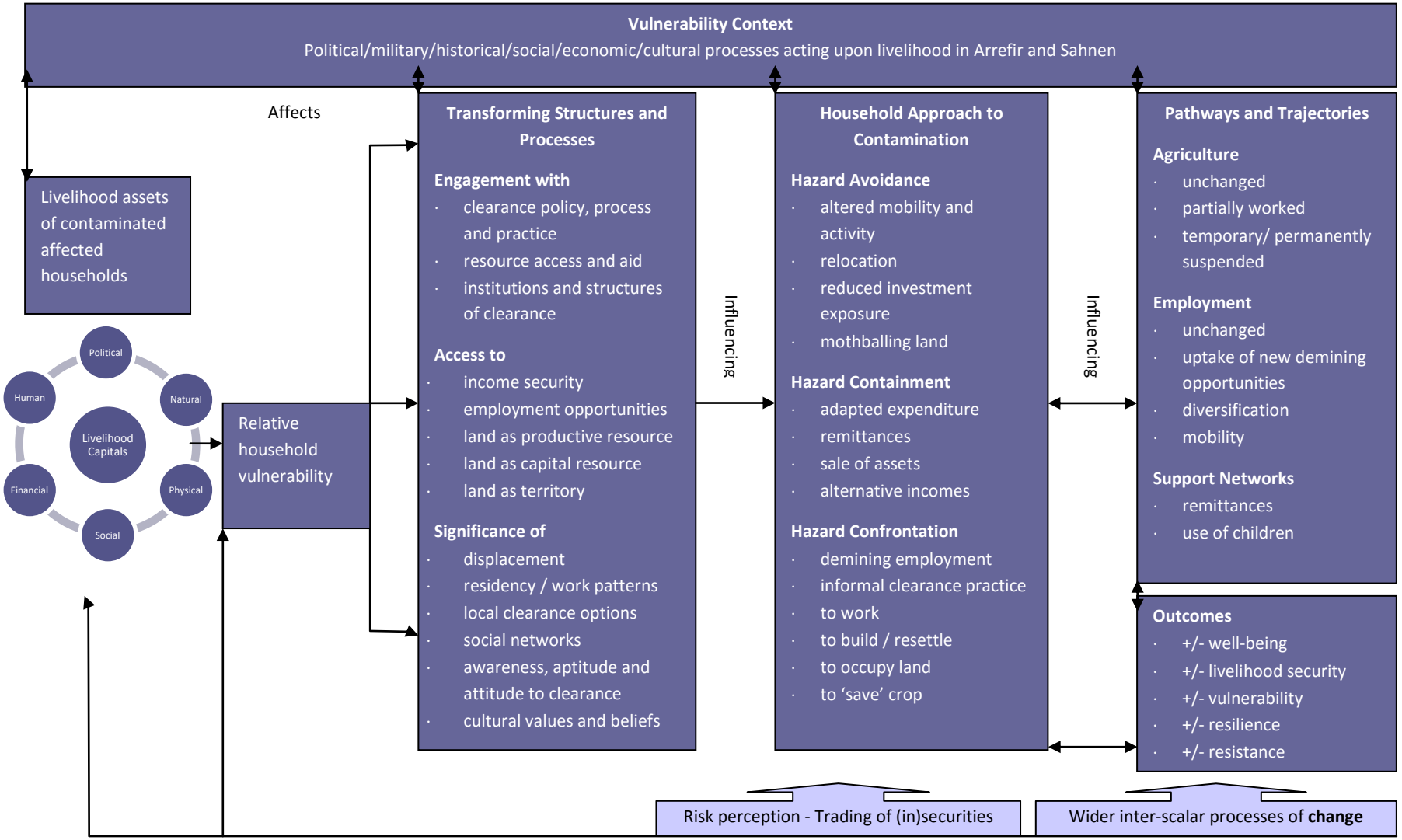
As was the aim, the adapted SLF enabled livelihoods to be conceptualised and embedded in the insecure context at hand. Further, the impact of contamination upon livelihood could be conceptualised figuratively, as set out in Figure 9-1.

Yet other approaches furthered and complemented analysis. To highlight a few: Well-being gave latitude to consider non material impact. It captured emotions and perceptions, such as continued occupation, suppression, or liberation, freedom and emancipation that fall outside the SLF. These findings highlighted how well-being was distinct from development and contamination and clearance worked across both factors. The relational component of well-being also highlighted the situatedness of livelihoods. On this point, engagement with post-colonial theory gave cognisance to contemporary forms of post-colonial statehood that underpinned some of the sources of contamination. Along with the work of Said (1978), there is recognition of how imaginative geographies are involved in the production and performance of violence against the Other. The Other is also present in the acts of resistance and resilience in the field sites. It sits behind imaginaries of home and homeland, why land needs to be built on and lived on. It needs to be occupied. It is territory. The DRR literature proved insightful particularly on the trading of (in)securities within livelihood and how this can explain deliberate risk taking. It helped frame the livelihood choices made and the role vulnerability could play in this process. Vulnerability and its counter point of resilience proved useful tools in the analysis. Inherently dynamic and branching issues of scale, they helped bind the above approaches together into a coherent whole.

The SLF gained popularity as a methodological tool driven by applied need within the aid sector. It sought to make sense of everyday lives and identify meaningful entry points for external intervention. As noted in Chapter 2, empirically there was the practice of examining livelihood as the way a household 'gets by' Rigg (2007, p. 32). Yet as has been shown 'livelihoods are at least as much about the social and cultural bases of life and living as the material ones' (ibid.).Values, perception and emotion are important. The use in the thesis of a nested livelihoods approach that is embedded within a range of literature across scale, helps give weight to such considerations. In this process it directs attention to the processes and conditions that lie above and below the household but help shape household circumstance, decision making, opinion and behaviour. The research shows the significance of such factors to analysis. Therefore the nested approach provided more rounded and holistic understanding of respondents' situation than the SLF alone.

Figure 9-1 Contamination and Livelihood Impact

Adapted from (Collinson, et al., 2002, p. 26)



9.4 Contribution, Limitations and Recommendations for Further Research

Within the ESRC-CASE proposal for this research, a number of anticipated outcomes were identified that fell under the areas of: (i) knowledge and understanding about the nature of livelihood transitions in post-conflict contexts and (ii) developing and applying a new methodology to measure impact.

A limitation of the research has been with regard to the latter point. Whilst the research did develop a methodology to examine and investigate impact of contamination and clearance on livelihood within insecure contexts, this methodology does not 'measure' impact. Moreover, as the research methodology evolved, its basis in interviewing meant it was not designed to be replicable, as was originally conceived. Rather the methodology was grounded within, and emerged from, its implementing context. In terms of empirical and methodological contribution, a number of lessons learnt can be drawn from this process, as have been discussed above.

However, in terms of empirical contribution a number of points can be made that replicate, modify or supplement initial suppositions set out in the proposal. As set forth in the introduction to this chapter, there were identified gaps in knowledge that the empirical, methodological and conceptual findings of this research feed into. Alongside the findings of the research and their translation into policy and practice, as already discussed, the research adds to knowledge on the conceptualisation and understanding of livelihoods and spaces of development post-conflict. As with the work of Roberts (2009), Durham (2010) and the Assistance to Mine Affected Communities Project, undertaken by the PRIO (1999 – 2009), it highlights the significance and implications of man-made, as opposed to environmental, hazard and risk to livelihood, the normal focus of study in the Global South. It strengthens the capacity of actors to recognise the differences and nuances within the circumstance of conflict affected communities to better meet their needs. It aids in increasing the effectiveness of assessment of clearance interventions in insecure development contexts. It provides evidence to support decision making within mine action fora on how contamination and clearance intersect with livelihood. Finally, it helps conceptualise the synergies between contamination, clearance, politics and livelihood that receives little attention in the mine action literature.

Before turning to some final remarks, it is perhaps useful at this point to consider what the research means for further enquiry. Three avenues of methodological, empirical and applied investigation emerge. The methodological limitations in the assessment of impact remain. Recent research focuses on providing a snap shot of impact. Yet findings highlight the dynamism of livelihoods and its interactions with contamination and clearance. A panel study to track livelihood change across time, in relation to contamination and clearance, I believe would therefore add insight. Empirically, the political impact of contamination and clearance is an underexplored area of enquiry. How strongly this came through in the data, and how it related to social and cultural values and practices, was surprising given the little attention it has received within mine action literature. Further, the political significance land may hold to identity and livelihood may have wider relevance for mine action, given its association with contested space. Further study on this I believe is therefore warranted. Finally, as noted in the section above, there appears the need to further engage with informal clearance practice. This includes the issue of what constitutes clearance and the full spectrum of reasons that may underlie such behaviours. Whilst of clear applied benefit this would also provide academic insight in the manifestations of vulnerability and resilience in post-conflict livelihood.

9.5 Final Remarks

Grounded within the everyday geographies of conflict-affected communities, this research essentially sought to capture how contamination and clearance linked to livelihoods and livelihood change. A gap in knowledge had been identified within the mine action sector regarding 'impact', that this research, amongst others, sought to address. So by way of final remark, I would like to bring discussion back to the conceptualisation and processes of analysing and capturing of impact within mine action, as discussed within the introduction to this thesis.

As previously noted, at the time this research was conceived, ex-ante evaluations of impact within mine action trumped ex-post evaluations in terms of time, resources and capacity building. Where impact had been considered, it was primarily to prioritise clearance. Further, historically within mine action, impact analysis has drawn attention to the threat contamination presented to life and limb and the material socio-economic implications it had for households, communities, regions and nation states. This is understandable given mine

action's remit within a broader humanitarian and development aid sector. Yet, in line with the work of Millard and Harpviken (2000), the empirical findings to this thesis highlight that at the micro level of individuals, households and communities contamination and clearance, and the impacts they have on livelihood, speak to much broader concerns. Contamination, clearance and impact resonate with issues of power, global and local politics; resilience and resistance; history, cultural values, social practices; identity and meanings attached to place. Indeed impact sits beyond concerns with which the livelihoods approach is primarily concerned, or at levels at which it livelihoods analysis is generally undertaken.

This thesis has highlighted the need to see the impact of mine action 'in the round', a point that Chambers makes in more general terms when he reflects on 'development':

> '*The objective of development is well-being for all.* Well-being can be described as the experience of good quality of life...Unlike wealth, well-being is open to the whole range of human experience, social, psychological and spiritual as well as material. It has many elements...Perhaps most people would agree to including living standards, access to basic services, security and freedom from fear, health, good relations with others, friendship, love, peace of mind, choice, creativity, fulfilment and fun. Extreme poverty and ill-being go together, but the link between wealth and well-being is weak or even negative...amassing wealth does not assure well-being and may diminish it. *Livelihood security is basic to well-being'.*
>
> (Chambers, 2004, p. 10)

It has been noted within the thesis that whilst the SLF sought to gain a view from the local, it was a view that was framed within Western normative understandings and their associated development praxis and process. It has been also noted that mine action is a 'product of the West' (Bottomley, 2003, p. 52). Further, as Bottomley also states mine action 'represents to a large extent the response of the international community to the mine problem...This has to a certain extent, standardized the mine action response' (ibid. p. 49). There is a danger that the primary ways in which impact within mine action is conceptualised, and hence the ways it is examined, have similarly become standardised to issues of risk, socio-economic and corporeal consequences. This may channel impact into a certain set of understandings that preclude the 'range of human experience' as Chambers sets out above, and as evidenced within the empirical chapters. Whilst findings within this thesis highlight how contamination

and clearance unsettle and rework livelihoods and livelihood security, with all the implications this has for well-being, vulnerability, resilience and the linking of livelihoods and resistance, it simultaneously unsettles assumptions upon which the very conceptualisations of impact itself have appeared to fall within mine action. If, as Chambers states, the purpose of development is well-being for all, and well-being incorporates the material and non material, then beyond issues of safety, the non material and emotive impacts of contamination and clearance, and their political, social and cultural substance, afford further attention.

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ANNEXES

Annex A: Impact Initiatives within Mine Action

Mine Action Impact Workshop **MAG HQ, Manchester, UK**

7 Sept 2009

Impact Assessment Initiatives

Jo Durham	Curtin University, Perth, PhD.
Ruth Bottomley	MAG - Post Conflict Impact Assessment Pilot (PCIA) (Cambodia)
Bodil Jacobsen	Danish Demining Group – Impact Monitoring Manual (IMM)
Ruth Skilling	MAG – Impact Assessment Tool (IAT) - South Sudan Programme

Aims & Conceptual Framework

Jo Durham	Research Q: Who benefits from ERW clearance, in what ways and in what contexts? Framework: Sustainable Livelihood Framework (SLF). Conceptualises contamination as acting as an external shock affecting assets. Risk handled separately.
PCIA	Aim - Tracking of livelihoods and levels of risk over time Word picture survey of the PCIA enables qualitative data to be turned into quantitative data Framework: SLF – based upon the LAST methodology of Manchester University.
IMM	Aim – To enable impact monitoring within the mine action arm of the Danish Refugee Council, so that they emulate what is already being done in the Council's other work. Framework: SLF - Safety and security handled separately, so that they can deal more concretely with the physical reduction of the threat and the feeling of risk associated with contamination.
IAT	Aim – To fulfil request from Canadian Govt and their desire to have 1 team funded specifically to do impact assessment on contaminated sites pre and post-clearance; spot tasks; and mine risk education. Framework: SLF

Research Methods and Analysis

Jo Durham	All done in conjunction with national programme staff Qualitative data collection of purposive sample of 50 households as first stage Content analysis to input into the design of the questionnaire survey Mainly categorical data collected within survey Household questionnaire survey of a 492 sample in Laos Verification of tool through implementation of household questionnaire also in Iraq Statistical analysis of findings (factor analysis and ?)
PCIA	Ideally word picture survey used prior to and post-clearance to track change across the asset pentagon of the SLF. Training of national programme staff in using the word pictures survey. Survey on a scale of 1-80. 1-20 very poor; 20-40 poor etc. Respondents' responses to questions placed on the scale using the word pictures. Overall score for that household then calculated. Survey carried out in 235 households. Used different communities; 3 prior to clearance; 3 communities 12-18 months since clearance; and 3 communities 3-5 years since clearance within 5 week period.
IMM	Questionnaire survey format – kept quite simple. To be used at programme or project level. Formats for baseline and impact assessment developed but similar The survey has a basic main structure that can be adapted in the field by national staff to suit local circumstances Excel data analysis Has been field tested in Somalia, Iraq and Sri Lanka Looking for this to become a standard approach in all projects Questionnaires for SALW different to ERW – includes more of a participatory approach.
IAT	3 elements to the tool: - SHA Survey; done pre-clearance and 6 months after (being piloted at the moment); community meeting determines as part of the prioritisation process for clearance what the expected outcome will be from the clearance; uses progress markers (word picture in PCIA speak) to then baseline the position on these outcomes (in terms of health ' housing etc); after clearance these then revisited to see any changes and if any other outcomes/ impact comes to light recall methods used to track back to see how things have changed. - Spot Task Survey; I household per task. Looks at the psychological / socio-economic impact of spot tasks. Open questions as to the 'blockage' / threat' the contamination is causing that then ticked off. - MRE Survey; 11Qs asked immediately before and after the session - Analysis in Excel

Findings

Jo Durham

Findings at the moment are preliminary as data collection in Iraq has just finished.

Who benefits?
- Impact differential in terms of financial gains – clearance had more impact on the 'not poor' than 'the poor' or the 'very poor'
- Those who have participated in the clearance prioritisation process and subsequent decisions on the use of cleared land e.g. when another development agency comes in.
- Those who can access the asset and it is conveniently located (not too far away)

Predictor variables linked to the impact attained:
- Type of post-clearance land use – meets a need
- Level of education of household head
- Level of poverty and district location of household
- Time passed since clearance
- Level of participation in the prioritisation process prior to clearance and deciding on the use of the cleared land post-clearance

Wider issues influencing impact attained:
- Initial lack of access to assets
- Wider market opportunities available – ability to sell labour etc
- Institutional processes – e.g. clearance timing means land can't be used that year for agriculture
- Ownership
- Vulnerability context – other household shocks

Clearance effects on SLF assets pentagon:
- Social: Improved social networks
- Human: Improved educational opportunities / food security / sense of satisfaction or pride / improved psychological health / reduced risk
- Physical: Improved access to services
- Finance: Small income gains, small gains in savings and investments
- Environmental: Improved access to land, water, and forest.

Snowball effect on releasing assets.

Most significant change:
- Sense of identity – ability to come back and work on family land
- Reduced risk, increased sense of safety – not worrying whether someone will get hurt

PCIA

Performance of the research method/tool

Positives
- Can be used to track change over the project cycle

- Ability to provide baseline data
- Identifies the complexities of livelihood but not flexible enough to capture it all.
- Can convert qualitative data into quantitative data.

Negatives
- Word picture survey difficult to use
- Reliance on personal judgements national staff not comfortable with
- In absence of baseline data, retrospective questioning about earlier situation needed to be bounded to give consistency in the data – proved hard for respondents.
- Precludes in-depth information that could help, for example, with attribution
- Bias in data, as MAG staff interviewing on MAG work.

IMM

Performance of the research method / tool
- Local adaptation and input into the design of the questionnaire important for local ownership (and then hopefully the degree to which the initiative will continue to have local use once trainer has left)
- Capacity of national staff in doing the data analysis important in terms of it being used also. Currently all calculations are done in Excel (overtime when resources to invest in training of national staff; and pay for upgrading and licenses, may consider upgrading to SPSS)

IAT

No impact findings yet – first due in 6 months

Performance of the research method / tool
- MRE: doesn't evaluate behaviour change or retention of information as it happens immediately after.
- Subjectivity of placement of the progress markers. Situation prior to clearance may be described worse than it actually is.
- Same issues as before consistency etc.
- Progress markers need to be adapted and modified to different environments.

Limitations / Issues to Address/ Recommendations / Follow Up

Jo Durham

Limitations and issues in research:
- Statistical reliability in the questionnaire and the ability to translate human assets in particular into a statistical scale
- Absence of baseline data
- Difficulty with retrospective questioning
- Scaling on the questionnaire from piloting to re-testing proved unreliable – 5 options went down to 3, then refined again to 2 (yes or no to change).
- Analysis only at household level, not higher or lower.

- Overall sample size large but sample size for clearance for agriculture or water - i.e. thematic clearance tasks not large enough to do statistical analysis
- Consistency in the scoring between different enumerators
- Discomfort of enumerators in labelling households as 'poor'; 'very poor' etc

Recommendations:

- Qualitative data needed to make sense of the statistics.
- Impacts we think of as important aren't necessarily what comes back as important from the beneficiaries of clearance; more weight needs to be given to social and cultural impact. Indicators for this kind of impact need to be developed in conjunction with financial and economic ones.
- Needs to be something that is useable for national staff (issue on SPSS)
- Balance of using national programme staff which gives much better entry into the community with acknowledgement of potential data biases that may result.

PCIA

Limitations and issues with the tool:

- Issue of defining descriptions to denote –'the poor'; 'the very poor'. Where does one category start and another finish
- Staff felt uncomfortable 'labelling' households as poor / very poor
- Low levels of confidence of national staff in making judgements on respondents' answers if they didn't fit exactly with the description in the word pictures.
- Issue of consistency between the scoring of different enumerators.
- Scope of word pictures, in all aspects of livelihoods, was that broad it overinflated impact
- Attribution – hard to denote which impacts specifically where related to clearance
- SPSS used within LAST. Within this pilot did the analysis on Excel.
- Within the pilot things were rushed. Not sufficient time / resources.

Recommendations:

- Community themselves should do the wealth ranking
- Consideration of other criteria for field site selection (other than time and proximity) - e.g. what has clearance been used for – road / agricultural use etc.
- Link impact into the clearance objectives that were set for that task in the first instance.
- Work with development agencies on assessing impact when there is some development work scheduled post-clearance.
- Issue of scale – may be better at tracking programme level work as opposed to one-off projects. Or if a variety of operators have cleared a whole district / region what collectively this has enabled.
- Where programmes have employed beneficiaries as part of the clearance process (e.g. locality deminers in Cambodia and in village assisted clearance in Laos include changes in their livelihoods within the IA.

IMM

Limitations and issues with the tool:

- Its adoption by the field is influenced by local personalities
- Resources to be able to roll it out (costs of SPSS licenses for example)
- Constraints in terms of local capacities to analyse the data
- Internal team members doing the analysis – biases in data / lack of objectivity at times

Recommendations

- Capacity to analyse the data is often the gap rather than generating the data itself
- Think about who will be doing the collection and analysis and pitch it accordingly

IAT

Recommendations

- Progress markers need to be adapted and modified to different environments.

Wrap Up

Recommendations:

- Don't try to get one size fits all, but a bit of a toolbox approach that can be adapted
- Lots of data already being collected, in part need to just make better use of what is already there
- The gap seems to be analysing the data, rather than generating data
- Need some sort of analytical framework; put the data that is already generated into some sort of structure – and then look to plug gaps of what already have rather than reinventing the wheel.
- Something that is useable by national staff – so think about capacity.
- Need stakeholder involvement of the technical staff – make sure they can see it as a means to improve the effectiveness of interventions.
- DDG format currently the most practical to roll out.

Points for follow up

- MAG need to do a bit of a sit-rep of what is already in house, produce best practice from the initiatives already underway and take it to the next level.
- Try out DDG questionnaires within MAG programmes
- SALW a gap – and more political engagement – that impact seems to be geared towards.
- Safer communities?

Annex B: Glossary of Terms

Abandoned Explosive Ordnance (AXO)

Explosive ordnance that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. Abandoned explosive ordnance may or may not have been primed, fused, armed or otherwise prepared for use.

Battle Area Clearance (BAC)

The systematic and controlled clearance of hazardous areas where the hazards are known not to include mines.

Clearance

Tasks or actions to ensure the removal and/or the destruction of all mine and explosive remnants of war (ERW) hazards from a specified area to the specified depth.

Cluster Munition

As per the Convention on Cluster Munitions: Cluster munition refers to a conventional munition that is designed to disperse or release explosive submunitions each weighing less than 20 kilograms, and includes those explosive submunitions. Technically cluster munitions are included in the overall definition of ERW. 7

Contaminated Area

An area known or suspected to contain mines and, or ERW.

(Humanitarian) Demining

Humanitarian demining activities which lead to the removal of mine and ERW hazards, including technical survey, mapping, clearance, marking, post-clearance documentation, community mine action liaison and the handover of cleared land. Demining may be carried out by different types of organisations, such as NGOs, commercial companies, national mine action teams or military units. Demining may be emergency-based or developmental.The terms demining and humanitarian demining are used interchangably.

Explosive Remnants of War (ERW)

Unexploded ordnance and abandoned explosive ordnance.

Mine

Munition designed to be placed under, on or near the ground or other surface area and to be exploded by the presence, proximity or contact of a person or a vehicle.

Mine Action

Activities which aim to reduce the social, economic and environmental impact of mines, and ERW including unexploded submunitions. Mine action comprise five complementary groups of activities: a) mine risk education; b) humanitarian demining, i.e. mine and ERW survey, mapping, marking and clearance; c) victim assistance, including rehabilitation and reintegration; d) stockpile destruction; and e) advocacy.

Residual Risk

The risk remaining following the application of all reasonable efforts to remove and/or destroy all mine or ERW hazards from a specified area to a specified depth.

Submunition

Any munition that, to perform its task, separates from a parent munition, mines or munitions that form part of a cluster bomb unit, artillery shell or missile payload.

Unexploded Ordnance (UXO)

Explosive ordnance that has been primed, fused, armed or otherwise prepared for use or used. It may have been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason.

Extracted and adapted from the International Mine Actions Standards (IMAS, 2003, pp. 2-37)

Annex C: Interview Schedule and Survey

INFORMED CONSENT. TO BE READ OUT AT BEGINNING

"Thank you for agreeing to be interviewed today. This interview forms part of a research project about the impact landmines, bombs, and cluster bombs on has on the lives of households and to find out if any changes occur after the have been cleared.

Before we begin I wish to let you know that as stated on the paper the findings of the study may appear in MAG publications and academic publications inside and outside of Lebanon. There is no direct benefit from taking part in the survey. Confidentiality on the information you provide will be respected at all times so that your answers cannot be traced back to you. You can withdraw from the study at any time and refuse to answer questions if you do not want to.

Do you have any questions you would like to ask before we begin?"

WHO IS THE HOUSEHOLD HEAD?

The household head is usually the person with the highest income in the household, who makes major decisions for the household and knows about the economic and professional activities of each member of the household.

WHAT IS THE HH?

Anyone who has lived and eaten their meals together in the dwelling for 6 out of the last 12 months.

What difference does clearance make on livelihoods

Interview code	Survey code _____ Household code _____
Survey code: Field site 1 - 7. Household code (01-50)	
Name of person interviewed	
Relation to household head	
Interview date	
Interviewer initials	
Data entry - initials	

Survey Code
1. Field site 1
2. Field site 2
3. Field site 3
4. Field site 4
5. Pilot site 1
6. Pilot site 2
7. Pilot site 3

Household code
Insert the HH code from the sampling frame to the Questionnaire code

RELATIONSHIP TO HOUSEHOLD HEAD

Head	1
Wife/husband.	2
Child	3
Son/daughter-in-law	4
Grandchild	5
Father or mother	6
Parents-in-law	7
Sister or brother	8
Grandfather/grandmother	9
Niece/nephew	10
Other relative	11
Adopted/step child	12
Other people not related to the head	13

DISTRICT LIST

Beirut Governorate		**North Governorate**		**Beqaa Governorate**		**South Governorate**	
Beirut	1	Tripoli (Tripoli)	8	Baalbek (Baa	15	Sidon (Sidon)	20
		Akkar (Halba)	9	Hermel (Herr	16	Jezzine (Jezzine)	21
Mount Lebanon Governorate		Zgharta (Zgharta / Ehden)	10	Zahle (Zahle	17	Tyre (Tyre)	22
Baabda (Baabda)	2	Bsharri (Bsharri)	11	Rashaya (Ras	18		
Aley (Aley)	3	Batroun (Batroun)	12	Western Beq	19	**Nabatiye Governorate**	
Matn (Jdeideh)	4	Koura (Amioun)	13			Nabatiyeh (Nabatiyeh)	23
Keserwan (Jounieh)	5	Miniyeh-Danniyeh District	14			Marjeyoun (Marjeyoun)	24
Chouf (Beiteddine)	6	(Miniyeh-Danniyeh) (Minyeh / Sir Ed-Danniyeh)				Hasbaya (Hasbaya)	25
Jbeil (Byblos)	7					Bint Jbeil (Bint Jbeil)	26

Colour boxes and symbol meanings

	code for responses
	guidance / instructions
	question for well being ranking
RTA	**Refused to answer question**
NK	**Not known**
NA	**Not applicable**
SAB	**Same as before**

MOVE TO NEXT SECTION ">>>

SECTION 1 INTERVIEW STATUS

1 **What is the status of the dwelling and HH**

Dwelling found, occupants interviewed	1	1. Move to section 2 below
Dwelling found, occupants not interviewed	2	2 Move to question 2
Dwelling found, but not currently occupied	3	3. Survey complete. Move to next household

2 **Why were the occupants not interviewed?**

Refusal	1	
Temporarily away from village	2	
No answer after 3 attempts	3	
Other reason	4	SPECIFY

SECTION 2: RESIDENCY PATTERNS AND CONTAMINATION EXPOSURE

I would first like to ask you some questions about your residency here in the village and so the contamination your HH has experienced

3	4	5	6	7	8	9	10	11	12	13	14	15	16
		Were there any periods your HH lived outside the village									**Which contamination has effected the HH whilst living in the village**		
Code	**How many years has your HH lived in this village**	**Period 1. Insert year left.**	How many days / months / years did the HH stay away. Insert UNIT	What was the primary reason for leaving	**Period 2. Insert year left.**	How many days / months / years did the HH stay away. Insert UNIT	What was the primary reason for leaving	**Period 3. Insert year left.**	How many days / months / years did the HH stay away. Insert UNIT	What was the primary reason for leaving	**Mines Insert Date**	**CBU Insert Date**	**Oth (SPECIFY) Insert Date**

Ongoing conflict	1
Contamination	2
Employment	3
Schooling	4
Follow family	5
Marriage	6
Other (specify).	7

MOVE TO NEXT SECTION ">>>

IF ARRIVED IN VILLAGE AFTER MAG CLEARANCE & NO CONTAMINATION LEFT IN VILLAGE MOVE TO S-8

SECTION 3 - Conflict Rtn & Village Damage and Contamination Assessment

17 Can you please tell me about the contamination in [VILLAGE NAME] when your HH returned / arrived in [YEAR]

18 When you returned / arrived can you please tell me how else the conflict had affected life in the village

Prompts

Return to village and exposure

1. What was the contamination situation like - extent; intensity
2. How did they become aware of where contamination might be.
3. What was known about contamination and its risks
4. Where was the knowledge from MRE- previous exposure
5. What did they do when first got back - any self checking for contamination
6. Why did they do this if they knew the dangers

Affects on village

1. How was the village - what was destroyed/damaged
2. What was the service provision situation for the HH
3. What adaptations did their HH make to live in the village
4. What adpations did the make to do their work / get by
5. How long before things returned to 'normal'
6. How important an issue was contamination at this time for the HH compared to these other factors

MAKE SURE COVER ALL PERIODS OF RETURN IF EXPERIENCED MORE THAN ONE CONFLICT

SECTION 4 - HH Contamination, Damage & Health Assessment

19 Can you please describe how any contamination and damage affected your own HH specifically

Prompts

Contamination and damage to HH capital

1. What contaminated with what CBU / mine
2. What damaged and with what
3. How important were items contaminated or damaged to HH livelihood strategy - only source of income?
4. Who did the damage contamination affect - all or some HH members (all living / working there)
5. Did it effect any other HHs eg who also used land or were hired to work on land
6. Were there any health consequences

IF HEALTH CONSEQUENCES

1. Which HH member was affected (R'ship to HH Head)
2. How was health effected
3. Which contamination caused this impact
4. What was the clearance status of the land at this time
5. What activity / concern specifically caused the effect

20 IF HEALTH IMPACT - Can you please explain to me what effect this accident had for the HH

Health - How did this effect the HH

1. What happened after the accident
2. DId it cause any change in the way the HH gets by
3. Changes in costs
4. Changes in income
5. How long changes have been in place
6. How changes dealt with
7. What changes in the HH have resulted (care arrangements / effects HH members (care duties) - need to generate other income)
8. What has this meant for the HH - changes in asset base

MAKE SURE COVER ALL PERIODS OF CONFLICT IF EXPERIENCED MORE THAN ONE

COMPLETE SHEET ON EFFECT ON HH PHYSICAL CAPITAL THROUGH DAMAGE AND CONTAMINATION - RECHECK DATA AS INSERTED

21	22	23	24	25	26	27	28	29	30	31	32	33
						Any contamination				Any damage		Notes
Code	Capital Affected	Which contamination caused this impact: Mines Insert Date	CBU Insert Date	Other SPECIFY Date	What type of impact was there	Did your HH use X whilst contaminated. Yes = 1. No = 2	If used. Why did the HH use it	What clearance has happened on X	What is the use status of X now	Has X now been fully restored / replaced. Yes = 1. No = 2	How have any costs been paid for IDENTIFY ALL	
1												
2												
3												

Used - permanently 1
Used - regularly 2
Used irregularly 3
Used rarely 4
Unused - not cleared 5
Unused - cleared 6

Residential dwelling - main home 1
Residential dwelling - not main home 2
Out blgs / animal sheds 3
Work Blgs / offices 4
Work machinery or equipment 5
Vehicles 6
Other (SPECIFY) 7

Contaminated only 1
Damaged and contaminated 2
Damaged only 3

Knew risk needed s/where to stay 1
Knew risk but wanted to return home 2
Did not care about risk 3
HH knew how to clear risk 4
Did not know about the risk 5
Other SPECIFY 5

Cleared agency SPECIFY 1
Cleared - HH 2
Cleared other family / friends 3
Cleared - hired in - paid 4
Cleared - other villagers 5
Cleared - village leader 6
Uncleared 7
Other SPECIFY 8

Use existing cash savings 1
Sell investment (stocks/shares etc) 2
Sell something HH owns (SPECIFY) 3
Borrow money (SPECIFY where from) 4
Compensation 5
Other (SPECIFY) 6

COMPLETE SHEET ON EFFECT ON HH NATURAL CAPITAL THROUGH DAMAGE AND CONTAMINATION - RECHECK DATA AS INSERTED

34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
Land Ref	Plot of land = 1 Garden = 2	What is the area of this land	How did the HH acquire use of this land	Is the land in or outside the village. Inside = 1. Outside = 2	How many other plots of land did HH use at time of contamination	How many other HH use the land	Which contamination affected the land			What clearance has happened on the plot	What were the 2 main uses of the land when contamination happened (if more than 1 HH use the land check use same for all). IF USED FOR INCOME GENERATION ALSO ASK The last time this crop was harvested before contamination what production and income did it bring PER SEASON						How many hired staff work on that land	What was the HH strategy for the land	For how many SEASONS has/did this change continue.
							Mines Insert Date	CBU Insert Date	Oth (SPECIFY) Insert Date		Use 1	Prod 1	Inc 1	Use 2	Prod 2	Inc 2			
		UNIT	UNIT									kgs	Lb £		kgs	Lb £			season
1																			
2																			
3																			

Borrowed.	1
Purchased	2
Inherited	3
Rented.	4
Family land (owned by other family member)	5
Work % take	6
Other (specify).	7

Cleared agency SPECIFY	1
Cleared - self	2
Cleared - hired in	3
Cleared - other villagers	4
Cleared - village leader	5
Uncleared	6
Other SPECIFY	7

Livestock (SPECIFY)- income	1
Livestock (SPECIFY) - self consumption	2
Wheat - income	3
Tobacco - income	4
Bananas - income	5
Oranges - income	6
Lemons - income	7
Fruit other - income (SPECIFY)	8
Fruit self consumption	9
Olive groves - income	10
Vegetable -income (SPECIFY)	11
Vegetable - self consumption	12
Fallow	13
Garden	14
Rented out to other fully	15
Rented out to another partially	16
Residence	17
Construction of residence	18
Unused	19
Other (SPECIFY)	20

Stopped using it - no alternative land arranged	1
Stopped using it - alternative land arranged	2
Stopped using it - took other work	3
Used it partially for same purpose	4
Used it fully for same purpose	5
Changed use (SPECIFY)	6
Other (SPECIFY)	7

MOVE TO NEXT SECTION ">>>

SECTION 5: Contamination Adaptations & Change

54 Please tell what changed in the HH's daily life because of contamination
(Any changes to accommodation
Ability to return to work / changes to jobs or schooling
Changes to how work done
Changes to routes or land used)

Prompts
Changes to daily lives
1. Remember both reacting to a new constraint and any opportunities
2. How did things change - alternatives / substitutions
3. When were any changes made (immediately on return or later)
4. What was changed first and why
5. Who was effected by the change - within and outside the HH
6. How were these changes made/organised /paid for
7. How did things develop with time (changes permanent or temporary).

55 What impact did these changes have on the HH situation

What impact did these changes have on the HH situation
1. What did these effects mean for the HH
2. Any associated costs with this
3. Any changes in income
4. How long has this gone on for
5. How was this coped with

56 What stayed the same in HH's daily lives in spite of contamination

Accomodation	How work done
Job / schooling	use of routes or land

What stayed the same despite of contamination

1. What HH activities remained unaffected by contamination
2. What did they start getting on with (rebuilding etc - other effects of conflict
3. Why were the activities unaffected (no contamination / or contamination but done anyway)
4. If contamination - why did the HH make the decision to use X
5. What did they do to mitigate risks
6. How important is use of the contaminated area within wider HH livelihood strategy
7. What impact did this have for the HH situation - did things stay same / worsen / improve

57 In your own words can you please describe your feelings about contamination being in the village

Feelings about contamination

1. Let them talk
2. Probe - get full explainations of what they mean
3. Probe - have they always felt this way or have their feelings changed
4. Probe - why in particulalr do they feel this way
5. Do other HH members share this view

MOVE TO NEXT SECTION ">>>

SECTION 6: Clearance processes and HH clearance strategies

58 Please tell me about any clearances your HH was involved with here in [VILLAGE NAME] /on your land in [VILLAGE NAME]

59 If done - Why self-clearance or hired clearance done rather than clearance by a mine action organisation or Army

Prompts

Clearance on the land

1. Make sure cover both formal and informal (eg hired in help / self clearance)
2. For informal methods - how was it organised / how was it known what to do
3. How much had it cost
4. When did this happen

Why was it pursued

1. What was the issue
2. Why was it an issue
3. Value of any asset protecting
4. Value of any income protecting
5. Importance of this asset/income in wider livelihood strategy - all HH members effected
6. What not having this income mean for the HH
7. Did it achieve its goal
8. What was not acheived and why
9. Perceived risk / benefit trade off

60 What discussions did they have with community members about clearance?

Prompts
Involvement in discussions
1. Before, during, after clearance
2. Who informed
3. Who involved
4. How was it planned
5. How was it prioritised

61 Do you feel fully confident that areas cleared of clusters in [VILLAGE NAME] are now safe ?

Level of confidence
1. What is the level of confidence
2. Why is confidence at that level
3. Has there been any change in this over time
4. Is it the same for all HH members

62 What about mines?

MOVE TO NEXT SECTION ">>>

SECTION 7: How are local livelihoods and development spaces reworked because of clearance

63 For your HH did anything become possible because of the clearance of contamination in VILLAGE NAME / HH LAND - (filter)

64 If yes - can you please tell me about your use of cleared areas
(note different questions for direct / indirect beneficiaries)

65 If yes - what impact did these changes have on your HH situation if any
(note different questions for direct / indirect beneficiaries)

Prompts
Description of what happened after clearance

Direct & Indirect Beneficiaries
MAKE SURE DISTINGUISH BETWEEN DIFFERENT TYPES OF CLEARANCE DONE ON LAND

1. How quickly was resource used after clearance
2. How frequently is it used now
3. What is its use
4. If none use or changes to former use get explaintations
5. Who uses it - same as before? (check use from other HH / check the re-hire of any workers)

Direct Beneficiaries (continued)

1. How was this achieved
2. What was invested
3. What became of any alternative arrangements - return to old ways / kept alternative arrangements / mix of the two
4. Why was this pursued
5. What other factors influenced what was achieved / or what was possible
6. How important is re-using this land amongst the wider livelihood strategy
7. Was there anything else that became possible because of clearance - any other activities that had stopped been restarted

What impact did these change have on your HH
REFER BACK TO ALL CHANGES LISTED IN SECTION 5 & CHECK HAVE COVERED EVERYTHING

Direct beneficiairies

1. What did x (eg re-using the land) result in for the HH (eg more income / fewer costs / less reliance on others - get specific detalls
2. What effect has y had on the HH (what made possible - any new difficulties encountered)
3. Why did you choose to do this - why was it important
4. How has this altered the lives of HH'ers
5. Impact of changes on HH situation

Indirect Beneficiaries

1. Was there anything that became possible because of clearance

66 If no - why is your HH's daily life unaffected when clearance has occurred

67 What are the 3 most significant changes either positive or negative clearance has brought about for your HH.

1	
2	
3	
4	No effect

68 In your own words please describe your feelings about clearance in {VILLAGE NAME]

Prompts

Unaffected daily life
1. Why is the HH unaffected
2. If land is cleared but not used - why is it not used
3. If not used - How important is land amongst the wider livelihood strategy
4. What would make them use the cleared land

Positive consequences / negative consequences
1. Check whether there were any negative effects
2. Any tensions / opportunities clearance created

Feelings about contamination
1. Let them talk
2. Probe - get full explainations of what they mean
3. Probe - have they always felt this way or have their feelings changed
4. Probe - why in particulalr do they feel this way
5. Do other HH members share this view

COMPLETE SHEET ON CLEARANCE IMPACT - RECHECK DATA AS INSERTED

69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
Code	Name / Use of Resource	What is the clearance status of X	How quickly was X used after clearance	How frequently is it used now	If used. What are the 2 main uses of X post-clearance. Same as before = SAB IF USED FOR INCOME GENERATION ALSO ASK The last time this crop was harvested what production and income did it bring PER SEASON.						For how long has re-use been in place. SPECIFY MONTHS / SEASONS	For the HH has clearance had: Positive impact = 1. Negative impact = 2. No impact = 3	On a scale of 1 - 5 where 1 is essential to HH and 5 being not at all important to HH - how important is X to your HH	Can you please explain this. Notes on explaining importance & any changes in production / income
					Use 1	Prod 1	Inc 1	Use 2	Prod 2	Inc 2				
						kgs	Lb £		kgs	Lb £	UNIT			
1														
2														
3														
4														
5														
6														

Cleared agency SPECIFY	1
Cleared - HH	2
Cleared other family / friends	3
Cleared - hired in - paid	4
Cleared - other villagers	5
Cleared - village leader	6
Uncleared	7
Other SPECIFY	8

Used - permanently	1
Used - regularly	2
Used irregularly	3
Used rarely	4
Unused - not cleared	5
Unused - cleared	6

Livestock (SPECIFY)- income	1
Livestock (SPECIFY) - self consumption	2
Wheat - income	3
Tobacco - income	4
Bananas - income	5
Oranges - income (SPECIFY)	6
Lemons - income	7
Fruit other - income (SPECIFY)	8
Fruit self consumption	9
Olive groves - incom)	10
Vegetable -income (SPECIFY)	11
Vegatable - self consumption	12
Fallow	13
Garden	14
Rented out to other fully	15
Rented out to another partially	16
Residence	17
Construction of residence	18
Unused	19
Other (SPECIFY)	20

MOVE TO NEXT SECTION ">>

SECTION 8: New Arrivals - How are local livelihoods and development spaces reworked because of clearance

84 What did your HH know of the contamination and clearance situation in [VILLAGE NAME] when you arrived in [YEAR]

85 Has the remaining presence / former presence of contamination in [VILLAGE NAME] affected the HH in any way

86 Do you feel fully confident that areas cleared of clusters in [VILLAGE NAME] are safe to use ?
What about mined areas

Prompts

What known of contamination when arrived

1. What were they aware of
2. How were they made aware
3. How had contamination featured in their decision making to move there
4. What about clearance - had that played a role in their decision to move to the village
5. What were their primary motives for moving to the village
6. Why

Any effects on HH

1. Were HH activities effected in any way
2. What activities
3. How important were those activities to HH members
4. Did this effect all HH members or only some
5. What happened - Activities stopped / alternative arrangements made etc
6. What did this mean for the HH - what impact has this had

Level of confidence

1. What is the level of confidence
2. Why is confidence at that level
3. Has there been any change in this over time
4. Is it the same for all HH members

87 Please tell me about your HH use of cleared areas

88 What are the 3 most significant changes either positive or negative clearance has brought about for your HH.

1	
2	
3	
4	No effect

Prompts

Access and use of cleared areas

Used cleared land

1. What cleared land is used by the HH
2. Why do they use it
3. How important is that land to the HH
4. How was access acquired
5. What did x (eg re-using the land) result in for the HH (eg more income / fewer costs / less reliance on others - get specific detalls
6. What effect has y had on the HH (what made possible - any new difficulties encountered)
7. Why did you choose to do this - why was it important
8. How has this altered the lives of HH'ers
9. Impact of changes on HH situation
10. Was there anything that became possible because of clearance

Unsued cleared land

1. What cleared land is unsued by the HH
2. What are the reasons behind any none-use - eg not needed / not wanted / unable to access it
3. Does this none-use affect the HH in any way
4. What does the non-use mean for the HH

MOVE TO NEXT SECTION ">>

SECTION 9 : HH CHARCTERISTICS

To finish off I would just like to ask about some quick details on your HH.

89	90	91	92	93	94	95	96	97
Is the house female headed or male headed	What is the martial status of the HH head	Excluding any external hired help: How many people have lived and eaten their meals together in this house for 6 out of the last 12 months.	How many babies and children (0-15 years) live in this HH	What was the highest schooling the HH Head completed?	What are the three main occupations of the HH Head in order of importance and in what location does [NAME] work? In notes column specify if salaried or wage labour In notes column specify if agriculture what crops			Notes
					1 OCC	2 OCC	3 OCC	

Female 1
Male 2

Married....1
Widowed..2
Divorced....3
Single.....4

Not started school yet	1
No formal education	2
Elementary Age 4 - 10. Grades 1 - 5	3
Intermediate Age 11 - 14. Grade 6 - 9. Brevat	4
High School Age 15 - 18. Grade 10 - 12. Bacculaureate	5
University M1 Age 18 - onwards. Bachelors & Diploma	6
Univeristy M2 Masters	7
University PhD Phd (not available in Lebanon)	8
Vocational	9

98 **Is this dwelling your HH's primary residence?** Yes = 1 No = 2 2 - Move to QX

99 **Where is your primary residence.** **Village & use district list in 2A**

100 **How often does your HH live in this dwelling**

Year round - everyday	1
During week only	2
Weekends only	3
Summer holdiays	4

101 What is the main reason you do not live here permanently.

OBSERVATIONAL NOTES

102 What is the major construction material of the external walls?

Brick	1
Concrete blocks	2
Wood, logs	3
Tin, zinc sheeting	4
Other (specify)	5

103 What is the major material of the roof?

Concrete	1
Metal sheets	2
Tile	3
Wood	4
Bricks	5
Other (specify)	6

104 What type of dwelling is it?

Villa for 1 famil y	1
Multi-family house /apts	2
Separate apartment	3
Room in a larger dwelling	4
Improvised housing unit	5
Under construction	6

105 Is the dwelling furnished or unfurnished

Furished	1
Unfurnished	2

106 Is the dwelling fully constructed 1

In the process of being built 2

Notes - interview context / anybody else present / any non-verbal comms

MOVE TO NEXT SECTION ">>>

WRAP UP

Thank you for giving us your time to take part with this survey. Do you have any questions for us? If after we leave you have any questions or want to get back in touch with us you can contact us on the numbers on the letter or catch us in the village.

If we have any further questions or clarifications would it be possible to revisit you?
How best is it to contact you? Are there any times that would be inconvienient to do this?

When we write up the research we will not be mentioning anyone's real name. We can either not give any names at all, or we can use psudenoymns. Which if these options would you prefer.

Tick box	**Psudenomyn**	
	No name	

When	
Contact number	
Availibility	

OFFICE USE	**C**	
	Land UTM	

Annex D: Examples of Lebanon's Contamination

Anti-Personnel and Anti-Tank Mine Contamination

Mines Advisory Group

AT-Mines in Lebanon II

MAG saves lives builds futures

Mine AC legere

Mine AC Mle 47

Mine AC Mle 51 (all France)

NR 25 or Model 25 (Netherlands)

No. 6, Israel

Submunition Contamination

MZD-2, AP, AV
Fragmentation, shaped charge
∅ 42 mm
h: app. 83 mm
w: 0.273 kg / 0,038 kg RDX
CoM CHINA
CoU Lebanon
MoD rocket delivered; 35 per rocket in Lebanon

M 77, AP, AV
Fragmentation, shaped charge
∅ 38 mm
h: 73 mm
w: 0.200 kg / 0,031 kg RDX
CoM USA
CoU Iraq, Kuwait, Afghanistan, Lebanon
MoD rocket delivered; 644 per rocket in Lebanon

M 42 and M 46, AP, AV
Fragmentation, shaped charge
∅ 38 mm
h: 73 mm
w: 0.200 kg / 0,031 kg RDX
CoM USA
CoU Iraq, Kuwait, Lebanon
MoD projectile & air delivered; 88 per proj. in Lebanon

M 85, AP, AV
Fragmentation, shaped charge
∅ 42 mm
h: 78 mm
w: 0.289 kg w/o SD, 0.293 kg w/ SD/ 0,045 kg RDX
CoM Israel
CoU Lebanon
MoD projectile & air delivered; 49 per proj. in Lebanon

BLU-63/B, AP
Fragmentation
∅ 76 mm
w: 0,423 Kg / 0.114 kg Cyclotol
CoM USA
CoU Vietnam, Cambodia; Laos, Iraq, Lebanon
MoD air delivered; 650 per dispenser (in Lebanon)

(MAG Lebanon, 2010)