

Defining Vulnerability in Post Conflict Environments

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In the last two decades, vulnerability has received significant amounts of attention, not just as a distinct component of poverty but also as a concept unto itself. It concerns itself with the situation of poverty faced by households and/or individuals not just today but also over time. Academics and policy makers alike hold consensus over the fact that this dynamic nature of vulnerability requires specific attention so that appropriate responses can be devised for mitigating it. However, this is not an easy task. The very dynamic nature of vulnerability that makes it a special policy concern also makes it a complex concept to define specifically and therefore difficult to measure. There have been many attempts at defining vulnerability but they all end up focusing on uni-dimensional measures such as poverty patterns over time.

Vulnerability is inextricably linked to risks and shocks. The occurrence of a shock has two types of impacts. The first is internal defencelessness that results from reduced resources and the second is external defencelessness that results from a fragile environment. Internal defencelessness results from idiosyncratic capacities, which are specific to households and individuals and determine how the impact of the shock is internalised. External defencelessness is the result of new risks that emerge in the environment surrounding the household after the conflict. While the former reinforces poverty, the latter causes uncertainty over time. In a post shock environment, it is the combination of these conditions that causes vulnerability.

This paper seeks to conceptualise multi-dimensional vulnerability in a post conflict environment. Such environments are characterised by four types of losses. These include human security, losses of exchange freedom, loss in sense of belonging and loss of access to markets and services. These losses occur because availability of resources is reduced and even when they are available, individuals and households may not be able to convert them into well being.

Viewing such losses in a uni-dimensional way, perhaps in terms of income or consumption losses, is restrictive. For a comprehensive analysis therefore, it is necessary to consider vulnerability in terms of multi-dimensional losses. Such an analysis would focus not only on the root causes of vulnerability but also the mechanisms by which a loss is translated into vulnerability. To make an effective analysis therefore, the paper uses Sen's concepts of entitlements, capabilities and functionings to study the impact of resource loss as well as mechanisms whereby vulnerability is created.

In what follows this paper expands the concepts introduced above to develop a comprehensive definition of vulnerability that can subsequently be applied to the case of Afghanistan, after the culmination of the conflict in 2002. Section 2 discusses risks and their relation with shocks. Section 3 elaborates the concepts of entitlements, capabilities and functionings, with particular emphasis on post conflict environments. Section 4 formulates a framework for measuring post conflict vulnerability in terms of entitlements. Section 5 presents a brief summary of the caveats and limitations that should be recognised in studying multi-dimensional vulnerability. Section 6 concludes.

2. Risks, Shocks and Well Being

Vulnerability pertains to uncertainty about the future, uncertainty that is caused by the existence of risks. It is distinct from the concept of poverty, which concerns itself with household well being at a point in time. Vulnerability relates to poverty dynamics over time, which are determined by the environment an individual or household is placed in. More specifically, these dynamics are determined by the nature of risks that exist in the environment around the vulnerable household and how they are *manifested* in the form of shocks. This section seeks to understand how household well being is affected when risks manifest themselves into shocks.

2.1. Risks

Different institutions, academics and policy makers have defined risks in various ways¹. Risk can be defined as the probability that a loss will be incurred given a particular environment (Einstein 1988, Alexander 2000, Disaster Recovery Journal 2005 CHECK); or it can be defined as the expectation of losses (physical, economic etc.) in the future (Alwang et al 2001, Clarke 1999, Cardona, 2003, ADRC 2005, Heitzmann et al 2002). While the first measures a probability of an event occurring, the latter measures, to an extent, the impact of that event i.e. the cost in terms of damages and losses incurred. For practitioners, it is a combination of these definitions that is useful in that not only is it important to determine the probability of a particular event occurring but it is equally important to ascertain the expected value of damage and loss, in order to provide countervailing measures. The World Bank (2000/2001), UNEP (2002) and UNDP (2004) have tried to concretise this concept by emphasising that risks result from exposure to hazards (Tiedemann 1992, Garatwa and Bollin 2002, Blanchard 2005). In practice, these ideas of risk are overlapping and often used interchangeably. In subsequent sections, these views of risks will be used to develop the concept of vulnerability.

The existence of risks affects populations differently. Individuals and households react to these risks depending upon their abilities. Nevertheless, three main levels of influence can be distinguished: micro, meso and macro (WDR 2000/2001). Micro risks are faced by individuals or households and are therefore idiosyncratic in nature. Meso risks threaten groups of households or entire villages/communities. Macro risks are faced by nations or regions and are usually the result of events that occur at the global level. Meso and macro risks may have idiosyncratic implications but also have a substantial covariate (general) component to them (Dercon 2005). This distinction in the level of impact is key to determine risk sharing mechanisms and suitable policy responses.

Households and individuals face a variety of risks, some of which affect well being more directly than others (Dercon 2000). Those risks that lead to a fall in levels of income have been called damaging fluctuations (Sinha and Lipton 1999). Sinha and Lipton have compiled a list of six types of risks that give rise to damaging fluctuations. These include risks resulting

¹ The conceptualisation of risk continues to evolve over time as a result of changes in society that, in turn, have led to changing views on security. Changes in the international political order, economic environment as well as climatic conditions have created new risks thereby re-conceptualising the traditionally held views on human security (Kaldor and Vashee 1997, Kaldor 1999, Rio 1992 and Johannesburg 2002, Brauch 2005).

from violence, natural disasters, harvest and seasonality, health, labour markets and price fluctuations. The seminal World Development Report (WDR) of 2000/2001 categorises these risks in the broad categories of natural, health, social, economic, political and environmental risks.

Existence of risks in itself can have a negative impact on well-being. First, it prompts risk-averse behaviour that forces households to invest in low risk, low return activities (Norton et al 2001). This leads to inefficient utilisation of resources. Second, the mere existence of a risk may not be problematic. It is the manifestation of a risk into a downward shock that creates new risks, which increase uncertainty and reduce well-being. Therefore, to understand how risks relate to vulnerability, it is important to examine the types of shocks that risks can manifest into.

2.2. Hazards and Shocks

Like risks, a shock can refer to an event that has the *potential* to cause harm to systems, human life or property (Rahn 1996). Unlike risks however, once shocks occur, they have an *actual* impact in inflicting harm (Blanchard 2005). Holzmann and Jorgensen (1999) have provided a useful framework to comprehend the relationship between shocks and risks. They argue that it is important to gain a sense of the circumstances under which risks can become harmful i.e. convert themselves into shocks or hazards. They highlight three distinctions of shocks. The first distinguishes catastrophic and non-catastrophic shocks. Catastrophic shocks have a high negative impact but a low frequency. Non-catastrophic shocks are therefore those that occur with a high frequency but are not necessarily severe in their impact. The second distinction compares idiosyncratic and covariate shocks². While the former affect only certain members of society, the latter affects the whole society, at the same time. The third distinction distinguishes single and repeated shocks. Single shocks are one-off shocks that can give rise to further risks whereas repeated shocks can be cyclical. The key here is that a particular one-off shock can create a cycle that repeats itself and can therefore exponentially impact well-being in a negative manner.

Shocks occur when risks manifest themselves into events. To understand the interplay between risks and shocks, it is necessary to consider the broad categories of risks that households and individuals may be exposed to. These include universal risks, life-cycle risks and categorical risks (De Neubourg and Weigand 2000). Universal or covariate risks, in principle, affect all members of society, albeit not necessarily in the same manner and each member's response depends upon their resilience i.e. their capability to sustain these risks in the event that they materialise. Life cycle risks, also in principle can be shared by all members of society but they include an element of specificity, which reduces their level of influence. An example of these risks is old age that directly affects the entire aged population of a society but has only an indirect impact on other members. Categorical risks or idiosyncratic risks are peculiar to certain groups within society and can result from a number of factors. For example, they could be an occupational hazard or they could result from affiliation with certain groups within society or they could be a consequence of having certain capabilities that enable only specific responses to shocks.

² The term covariate shock has been used in the literature to refer to shocks that have a general impact on a large group of people. This paper will henceforth adopt this definition for the term.

Shocks affect different groups of people in different ways, depending upon existing levels of well being: the poorer the individual or household, the more negative the potential impact of shock. The effects of risks can be defined in three broad categories (De Neubourg and Wiegand 2000). Incident effects are those that are directly related to an event and disappear after a short period of time. Lifetime effects have a long lasting impact, perhaps over the entire lifetime of the members of the household individuals. Inter-generational effects are those that not only last over one individual's lifetime but can also spill over into future generations. While these effects are directly related to the risk they are borne out of, they occur only when the risk is manifested by an event (a shock or hazard). This distinction is crucial when discussing the effects of conflict as a complex emergency.

Understanding the nature and impact of the shock as well as the level at which it occurs is crucial for two reasons. First, it helps identify the nature of losses incurred and the affected population. Second, it determines the type of response mechanisms that are ideally suited to cope with negative impacts. The next section highlights characteristics of post conflict environments, which lead to creation of losses.

2.3. Conflict as a Negative Shock

The definition of conflict has evolved significantly over time and has varied depending upon the situation being considered. It has been defined as a struggle between opponents over values and claims to scarce status, power and resources (Coser, 1956). Conflicts can also be viewed as strategic bargaining situations in which the actions of one participant will determine the choices and decisions made by the other (Schelling, 1960). A conflict can be an incompatibility where one party's actions interfere, obstruct or in some way render less effective the actions of another party (Deutsch, 1973). It could be a process in which one party attempts to undermine another party's goal attainment (Wall 1985). The cause of the problem is the interdependence between the two parties, the differences in their goals and the differences in perceptions between these parties. A conflict could be a simple result of a divergence of interests, which is manifested in a belief that the parties' current aspirations cannot be achieved simultaneously (Pruitt and Rubin, 1986). Other authors in the last decade have built on the incompatibility argument: incompatibility between cooperative as well as competitive groups (Tjosvold and van de Vliert 1994) and incompatibility between goals of two groups of people and a perception of interference from each group (Folger, Poole and Stutman, 1997).

On the one hand, conflicts could manifest themselves in a healthy rivalry which promotes competitiveness and greater efficiency. On the other, conflicts could manifest themselves into violence, which is when they become 'active'. According to a comprehensive list of definitions prepared by the Department of Peace and Conflict Research at the Uppsala University, an active conflict occurs when there occur more than 25 battle-related deaths in one conflict area as a direct result of warring behaviour between at least two parties; the cause of violence being incompatibility. Incompatibility could be territorial i.e. concerning the status of a particular territory or it could concern the government and the type of political system in place, the aim being the replacement of central government or change of its composition. The conflict could be intra-state, where the state is in conflict with another non-state party and there is no outside intervention; or, it could be inter-state, which is a conflict between two or more governments.

In order to hypothesise about post conflict vulnerability, it is important to identify the characteristics of post conflict environments that create vulnerability. Studying these characteristics is important because they either create or contribute towards losses, which lead to vulnerability and negative well being.

2.3.1. *Characteristics of Post Conflict Environments*

Based on the definitions provided by Uppsala University, the type of conflict considered in this research is specific. It is prolonged in nature, with elements of ethnic conflict, warlordism and invasion by a foreign entity. The post conflict environment that results from the constellation of these three components has various characteristics. The literature has been summarised to compile a list of features that are characteristic of environments that have faced complex emergencies particularly that are in the post conflict phase (Carbonnier 1998). It may be remembered that characteristics of post conflict environments differ depending upon the nature and extent of the conflict. What is presented below is a brief summary of just some key features.

Post conflict environments are usually characterised by a fragile peace that is often accompanied by continuing crisis of political legitimacy, inequality and instability. Possibility for corruption and criminality remains high due to easy and plentiful availability of weapons. In the post conflict phase, human rights may not be effectively enshrined through legal and constitutional measures. Moreover, it can perpetuate inequalities by ensuring that certain groups maintain hegemony over others. Concerns of inequality are rarely made an explicit part of the post conflict peacebuilding³ agenda, even when such inequalities may be an explicit cause of conflict (Stewart 2005). Post war reconstruction is marred by a scarcity of resources, which implies that certain reconstruction activities will be implemented while others may not be. This can lead to exclusion of certain groups and furthering of tensions (Cliffe et al 2003). Related to this, Azam et al (1994) point out that civil wars lead to a breakdown of civil society, negatively influencing institutions of social capital and channels of accountability. For the victims of war, this implies not only a breakdown of both informal as well as formal means of support. This is particularly relevant because war creates new vulnerable groups, with different and urgent needs, which if not addressed could lead to humanitarian emergencies (Bodewig 2002).

One of the key costs that plague post conflict environments relates to the economy. The link between wars and low GDP is quite strongly established. Weak judicial, financial, fiscal, administrative and regulatory capacities of the state make it difficult for a newly appointed infant government to establish revenue generating and development initiatives. This is exacerbated by the lack of confidence and trust among socio-economic actors. Due to the uncertainty that mars post conflict environments, private actors choose to maintain their wealth in the form of liquid assets that are easily redeemable. This implies low levels of investment and a burgeoning informal sector, most likely involved in extra-legal activities

³ The term peacebuilding has been used widely since Boutros Boutros Ghali (UN Secretary General) used it extensively in his Agenda for Peace (1992). Boutros Boutros-Ghali, *An Agenda for Peace: Preventive Diplomacy, Peacemaking and Peace-keeping* Document A/47/277 - S/241111, 17 June 1992 (New York: Department of Public Information, United Nations) 1992. <http://www.un.org/Docs/SG/agpeace.html> John Paul Lederach, *Building Peace: Sustainable Reconciliation in Divided Societies* (Washington, DC: United States Institute of Peace Press) 1997 summarised the concept to involve a long-term commitment to a process that includes investment, gathering of resources and materials, architecture and planning, coordination of resources and labour, laying solid foundations, construction of walls and roofs, finish work and ongoing maintenance.

(Azam et al 1994, McKechnie 2003). These activities remain outside the control of the state and therefore, cannot be regulated. The resultant fiscal deficit is funded by inflation, which affects the poor and they end up paying for the war. Such practices reduce the multiplier effect of any reconstruction work and end up harming economic and administrative structures as well as the delivery of public services (Fitzgerald 1987, 1996).

Political and economic priorities in post conflict environments are guided, on the part of both national governments and aid agencies, by concepts of structural adjustment and humanitarian relief designed for use in peacetime (Fitzgerald 1997). Because the government and state structures do not have the capacity to reach the entire population, they hire the services of international NGOs and aid agencies whose work is dictated by their own mandates. This can lead to adhoc programming. Lack of funds due to weak or non-existent revenue also implies a high reliance on foreign aid. As Collier and Hoeffler (2002) point out, this aid is usually ineffective in the first three to five years after conflict and does not lead to economic growth.

The shortage of skilled workers is also a characteristic of post conflict environments. Stiefel (1994) finds that both during conflict and after the conflict has ended, there is a significant out-migration of skilled workers making reconstruction efforts difficult. There is widespread unemployment and under-employment amongst the semi and unskilled workers that remain or are returning refugees and internally displaced people (IDPs). The UNHCR (2006) highlights some of the problems faced by IDPs that include problems of separation, risk of HIV/AIDS, sexual exploitation, forced labour, slavery, abuse and violence, forcible recruitment into armed groups and trafficking. The interaction between local populations, IDPs and returning refugees can fuel resentments that could lead to a resurgence of conflict. These factors fuel migration of skilled workers and reinforce the shortage of skilled workers.

One feature of post conflict environments that is often ignored both by academics as well as policy makers is the situation of women (Sorenson 1998). While women are marginalised in the formal peace building process, their role at the grassroots level remains active. Moreover, given that more men die in wars than women and that even after the conflict has ended men serve in private armies, women have to assume the role of the primary bread winners and caretakers of their families. Coupled with the fact that women may not be exceptionally educated, even the employment opportunities they could avail would be low paying jobs (Bodewig 2002). In culturally sensitive environments where involvement of women in the labour market is not the norm, women either remain unemployed or become underemployed. The status of women in post conflict societies is related also to infant mortality rates. Stewart et al (1997) find that in the aftermath of wars, infant mortality rates increase and the main reason for this is low levels of education of women, low immunisation and unhygienic sanitation conditions.

These characteristics contribute towards losses, which lead to vulnerability and reduce well being. A thorough analysis of these losses is essential to understand the link between characteristics of the post conflict environment and vulnerability.

2.3.2. Nature of Post Conflict Losses

Characteristics of post conflict environments can be summed up in four broad categories of losses⁴. The first is human security, which according to the UNDP's Human Development Report (HDR), hinges upon seven areas of security: economic, food, health, environment, personal, community and political. Such a categorisation does not only leave the idea of human security broad and vague, these categories are not always distinct. In practice, the lines between these categories remain blurred. Also, particularly in post conflict environments, due to funding constraints and prioritisation, aspects of security, such as environmental concerns, are usually ignored in reconstruction. The second is loss of exchange possibilities, which is directly linked to a fall in resources. Not only are there fewer resources to exchange, the freedom to exchange existing resources is also reduced due to the fragmented nature of markets. The third is a loss in social capital which erodes the sense of belonging or being part of a community. This implies that informal sources of support are diminished. The fourth category is a loss of access both to services and institutions. The destruction of physical infrastructure reduces access to markets and services such as health and education while the destruction of social infrastructure reduces access to state institutions.

These losses create vulnerability in that they reduce household resources at a point in time, which in turn, creates uncertainty about the future. As a shock, conflict has a covariate (macro or universal) nature in that it changes the environment of the affected population. It also has an idiosyncratic or categorical component, which depends upon how the macro effect trickles down to the micro level. The response at the micro level can vary across households and individuals depending upon the differing levels of resilience to cope with the effects of war. It has incident effects that are directly related to the war as well as lifetime and intergenerational effects that impact not only the lifetime of the households and individuals involved but also their future generations.

One look at the categories mentioned above is sufficient to determine that these losses signify more than material deprivation and measuring them simply in terms of reduced income would be a fallacy. Also, these losses occur not only because of a fall in resources but also because the breakdown of the process by which these resources are converted into well being. Therefore, in linking these losses to vulnerability, it is important to consider three factors: the fall in resources, well being and the process by which resources are converted into well being.

In order to capture the multi-dimensionality of vulnerability it is necessary to evaluate those factors that create vulnerability. This necessitates an examination of the causes of vulnerability as well as the processes by which vulnerability is created. A suitable way to reflect these dynamics would be in terms of Sen's notions of entitlements and capabilities.

3. Entitlements, Capabilities and Functionings⁵

In a nutshell, the capability approach argues that individuals are poor if they do not have the freedom to achieve their goals of well being and they are vulnerable when this lack of

⁴ This list is by no means exhaustive and can vary according to the type and location of conflict being considered. However, this research limits itself to the impact of these categories on well being.

⁵ The information presented in this section is based on a detailed review of various publications. These include: Alkire (2002a, 2002b), Clarke (2006), Devereux (2002), Chambers (1995), Narayan et al (2000), Sen (1981), Dreze and Sen (1989), Sen (1991) Capability and Well being, Sen (1997), Sen (1999).

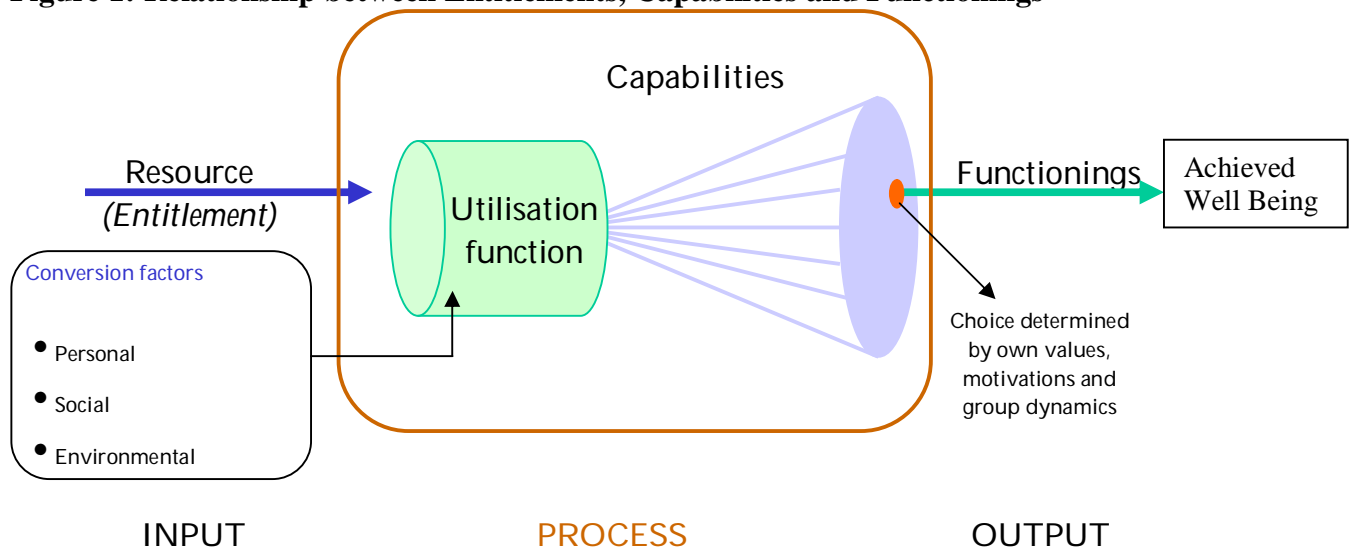
freedom persists over time (Sen 1999). This notion of well being, as a loss of freedom, requires elaboration of the concepts.

The key idea is that an individual’s state of being can be viewed as a vector of functionings; achieved outcomes that determine life and living. Functionings are discrete heterogeneous set of most basic reasons for acting (Alkire 2002) and are the achieved outcome in each situation in life. These could include for example, being healthy, well nourished, involved in local activities etc. These functionings are attained by utilising resources over which individuals have legal ownership rights, what Sen (1981) called entitlements.

Provision of or existence of resources and entitlements is not sufficient to be able to achieve a certain functioning. The process of converting entitlements into functionings is the freedom to be able to do so. Freedom has two aspects: one that focuses on fostering appropriate procedures and the other that emphasises generating adequate opportunities. The former determines the process flows that allow individuals to choose from these options while the latter relates to the myriad of options that contribute towards individual well being. This choice means that individuals exercise their free agency to determine their notion of well being and the options that help them achieve it.

Figure 1 captures the link between entitlements, capabilities and functionings as conceptualised by Sen.

Figure 1: Relationship between Entitlements, Capabilities and Functionings



Source: Adapted from Muniz (2009)

As the diagram suggests, individuals utilise their entitlements to attain functionings depending upon the personal, social and environmental circumstances in which they find themselves. This process of utilisation, which Sen has called capabilities, in effect, makes individuals and households free in their choice of functionings, a choice, which in turn, is determined by values, motivations and dynamics of society around them. This diagram proposes a continuum where resources are processed to produce an output: a particular state of being. The loss in functionings occurs because individuals lose freedoms/capabilities in a number of categories because they no longer have access to and control over necessary entitlements.

Functioning and capability losses are vague, arbitrary and difficult to measure. Functionings are broad states of being that reflect well being. Capabilities are processes: the ability to access *and* utilise resources. Therefore, in order to link vulnerability with functioning losses, the starting point is entitlements: the types of entitlements do households have access to and how these are converted into well being. As a result, when trying to concretise a notion of vulnerability in post conflict environments, the first step in the chain is entitlements.

3.1. Entitlements

The concept of entitlements, developed by Sen (1981) while analysing famines and starvation, focuses on command over resources and commodity bundles. “Entitlements refer to a set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces”⁶. The idea encapsulates an individual’s ownership (endowment set) as well as the available exchange possibilities (exchange entitlements). It is on the basis of entitlements that an individual can acquire functionings. The bundle of these is determined by the free choice of the individual as well as the process of converting entitlements into functionings. In this regard therefore, “the particular role of entitlements is *through* its effects on capabilities”; entitlements are a means to an end⁷.

Sen (1981) focuses on four main categories of entitlements three of which are production based, trade based, own labour entitlements. Entitlements that individuals gain from these resources determine their endowment set and their exchange possibilities. Simply stated, they determine what resources an individual can access and command to attain certain functionings. However, if individuals are unable to gain access over a significant amount of resources through these three and are thus unable to achieve their objectives of well being, a fourth type of entitlement was identified: inheritance and transfer entitlement. While this type covers a broad gamut of entitlements gained from informal sources, they also include conferred entitlements, usually transferred by an external body. These could take the form of charity or channelised through the support of organisations such as the government or NGOs.

Low entitlements are a key characteristic of poverty in that they imply a low level of resources available to enhance well being. The lower the ability to own (possess) and exchange (consume) commodities, the lower the ability to achieve functionings (Kakwani 2006). Kakwani agrees with Sen in that defining poverty in terms of insufficient capabilities would be incomplete if income was not taken into account since the capability function is derivable from income and wealth. He does emphasise however, that the link between entitlements and capabilities is not simple since it may not always be possible to convert an entitlement into a capabilities function.

3.1.1. Limitations of the Concept

Sen (1981) has highlighted at least four key limitations of the approach. First, he acknowledges that entitlements may be difficult to specify, both conceptually as well as empirically. Conceptually identifying an exact set of entitlements can be tricky and at best be characterised by fuzzy set relations. Empirical analysis can be restrictive due to data

⁶ Pg. 497, Sen (1984)

⁷ Pg. 497-498 Sen (1984)

constraints⁸. Second, while entitlement relations are defined within the given legal structure within a society, entitlements can be exchanged in an extra-legal manner through illegal activities. In cases, where such activities dominate, the entitlement approach may not be fully applicable since existing structures of entitlements are violated. Third, specifically for the case of famines, Sen argues that food consumption of people may fall for a variety of reasons other than a lack of entitlements, which could include apathy, ignorance or fixed food habits. Finally, famine mortality is distinct from famine related deaths; the former could be caused by epidemics and not necessarily by the absence of a right to food.

Devereux (2001) has elaborated on each of these limitations to show that they render the approach conceptually weak in assessing shocks. There are two primary reasons for this. First the approach does not recognise individuals as socially embedded within a structure be it household or community. Second, the approach is unable to explain the complex social and political milieu within which a particular shock occurs.

The next section applies the ideas of entitlements, capabilities and functionings to the characteristics of post conflict environments, described in Section 2. Such a framework would not only capture the multi-dimensionality of losses that are prevalent in post conflict environments but also help quantify them.

3.2. Entitlements, Capabilities, Functionings and the Post Conflict Environment

Post conflict environments are characterised by losses, which, according to the terminology described in this section, are called functionings. These include the loss of human security, exchange freedom, social capital and physical infrastructure. These functioning losses make households vulnerable to a fall in well being. Table 1 presents a list of those entitlements that lead to these functioning losses as well as those capabilities that prevent households from converting their entitlements into functionings.

Table 1: Losses in Post Conflict Environments

Entitlements	Capabilities	Functionings	Well Being	
Income	Ability to utilise income to maintain stable flows	Human Security		
Ownership of homestead	Ability to maintain a standard of living			
Sanitation				
Clean drinking water				
Food security				
Fuel for heating and cooking	Ability to access productive and labour resources and assets.	Exchange Freedom		
Sources of credit				
Ownership of livestock				
Ownership of land for cultivation				Ability to utilise these resources
Human Capital				
Employment in income generating activities				
Ownership of tradable assets	Ability to interact with others	Sense of belonging		
Membership in community				

⁸ Sen does acknowledge that while the theoretical focus can still be on exactitude, it is possible to study the main ingredients of entitlements.

organisations			
Sources of Information			
Mutual help/support			
Physical infrastructure	Ability to access markets and social services	Access	

The table above highlights the process (what Sen defined as the freedom or capability) through which entitlements are converted into functionings. In the context of post conflict environments, functioning losses occur because the availability and utilisation possibilities of entitlements are reduced. Achieving a desired state of being (functioning) depends upon the ability to access and utilise (capabilities) entitlements (resources).

The level of human security depends upon access to and availability of regular income flows, wealth that helps smooth consumption and basic amenities that contribute towards well being. Regular income flows depend upon at least three factors. First, if mean income is low, the capability to save for a 'rainy day' is reduced. Second, because income generating activities are mainly in the informal sector, it is difficult to ensure a regular income flow. Third, income sources may not be diversified so that if one income is irregular, sources of recourse are insufficient. Having wealth helps smooth well being over time but in order to convert it into human security it is necessary that wealth can be utilised. For example having a house implies availability of wealth but no registration deed implies it cannot be sold to generate resources when the need arises. Access to basic amenities such as sanitation facilities, drinking water, food for consumption and heating and shelter determines the standard of living, which households can maintain over time. Sanitation facilities, source of drinking water and access to food relate to health while heating and shelter determine the nature of protection the households have against extreme climatic conditions.

Having the freedom to exchange entitlements is necessary at a point in time to manage the negative impact of shocks; this exchange eventually contributes towards greater resilience. Exchange entitlements could be produced, such as cultivation using land. They could be based on labour resources which can be hired out for other entitlements. The extent to which this is possible depends upon the acquisition of human capital. They could be traded for other required resources. Such entitlements include assets. In order to freely exchange these entitlements for others, it is necessary that households not only possess these resources but also have the ability to be able to utilise them for exchange purposes.

Social capital determines the sense of belonging for individuals and signifies, at least in part, the nature of informal risk management and is enhanced when individuals interact with each other. Social interaction can take many forms that are difficult to specify in terms of concrete and tangible entitlements. Therefore, when identifying entitlements that increase social capital, this research focuses on membership in community organisations, nature of mutual support within community and sources of information. The existence of community organisations provides a platform where community members can interact with each other. Nature of support determines the type and frequency of support households extend towards each other. Having access to information determines how well individuals are informed about the goings on around them. Such awareness is particularly relevant when thinking about development interventions, which require community participation to derive benefits.

Finally, physical communications infrastructure such as roads, enables households to utilise their entitlements. Communications infrastructure directly enhances access to services such

as health and education as well as markets. Access to markets provides exchange possibilities while access to health and education facilities improve living conditions as well as labour entitlements.

Table 1 and the discussion above highlight the fact that the occurrence of conflict has two main types of impacts: one is a reduction of entitlements and the other is greater uncertainty. Reduction of entitlements affects an individual or household's resilience i.e. their ability to respond to the occurrence of shock. Uncertainty results from prevalent risks and affects the environment surrounding the individual or household. How the individual or household interacts with this uncertain environment depends upon the entitlements that are available to them.

This link between the uncertain environment and available entitlements is critical to the concept of vulnerability. Vulnerability is caused when available entitlements are insufficient to protect households from risks that threaten well being. This link is elaborated in the next section.

4. Vulnerability

Vulnerability received academic and policy emphasis in the late 1980s and early 1990s with the works of researchers such as N. S. Jodha (1988) and Robert Chambers (1995) on 'Voices of the Poor'. This exercise was based on soliciting from the poor, assessments of their economic status. It highlighted that the poor were concerned not only with income poverty that they face today but also in the future; the uncertainty that would mar their earning capabilities and potential in the future. In addition to uncertainty, the poor were also concerned with social inferiority, isolation, physical weakness, powerlessness and deprivation. More specifically, "[vulnerability] ...means not lack or want but exposure and defencelessness. It has two sides: the external side of exposure to shocks, stress and risk; and the internal side of defencelessness, meaning a lack of means to cope without damaging loss. Loss can take many forms – becoming or being physically weaker, economically impoverished, socially dependent, humiliated or psychologically harmed"⁹. In developing countries, where major parts of the population are destitute from the outset, vulnerability exacerbates their deprivation and can adversely affect well-being.

Before identifying the nature of vulnerability in post conflict environments, it is important to develop a workable definition of the phenomenon itself. The next section summarises some of the definitions that are commonly used for vulnerability while Section 4.2 outlines the limitations of these definitions. With the help of this review, Section 4.3 develops a workable definition of vulnerability and Section 4.4 applies it to the case of post conflict environments.

4.1. Dimensions of Vulnerability, Risk and Resilience

A review of the existing literature on vulnerability suggests that it is an amorphous concept; there is no single definition of vulnerability that fully encompasses its complexity, its dynamic nature and its multi-dimensionality. Birkmann (2007) has synthesised the literature¹⁰ and identified twenty-five commonly accepted definitions. These can be classified in at least five categories. On a broad level, vulnerability can be defined as exposure to risk or the level

⁹ Pg. 189 Chambers (1989)

¹⁰ Musser 2002 has compiled a comprehensive vulnerability bibliography that lists the keystone publications on the topic.

(magnitude) of exposure to risk. In some situations however, this relation to risk can be problematic. Cardona (2003) points out that vulnerability is often used to refer to risk or to define disadvantaged conditions. Using vulnerability and risk interchangeably ignores the crucial question: vulnerable to what? Cardona's logic is that shock and vulnerability are connected and they lead to risk. If there is no danger of a shock, there is no danger of potential damage. Alexander (2000) clarifies this point further: "...vulnerability refers to the potential for casualty, destruction, damage, disruption or other form of loss in a particular element: risk combines this with the probable level of loss to be expected from a predictable magnitude of hazard". Some authors have phrased this differently and argue that vulnerability is the susceptibility of a system to shocks.

There are a number of strands in the existing literature that seek to define vulnerability (Alwang, Siegel and Jorgenson (2001)). Within the economics literature, vulnerability is viewed as a process of household response to risks in given conditions. The emphasis here is on the ex-post state, in other words, the outcome. Therefore identifying indicators for measuring outcomes is crucial. The poverty dynamics literature views vulnerability as the ex post movement into and out of a state of poverty, making it a dynamic process. The state of poverty is defined by money metric figures such as poverty lines. The asset-based approach views poverty as inadequate access to assets and vulnerability as the probability of falling below a benchmark level of loss or degradation of assets. The sustainable livelihoods literature views vulnerability as the combination of two sides: an external side of risks and an internal side of inability to mitigate these risks without incurring losses. A more specific variant of this is the food security approach that combines the affect of risk and the ability of an individual or household to cope with these risks and to recover from a shock or deterioration of current status. The sociology/anthropology literature includes non-money metric dynamics of vulnerability that are not captured by the economics literature. The disaster management literature focuses on emergency relief and risk mitigation.

Vulnerability is inextricably linked to resilience in that it captures the extent to which individuals are able to prepare for tomorrow by nurturing coping measures (Briguglio et al 2008). Many authors also agree that depending upon their conceptualisation, vulnerability and resilience can be treated as reciprocal (de Leon 2006). The concept of resilience itself is debated within the literature (Birkmann 2007). It could refer to the capacity of a system as well as individuals and households within that system to absorb shocks. It also could refer to the ability of a system to respond to a change in terms of adapting to it; the focus here is on the system's regenerative capacities. While citing Adger et al. (2005) and Allenby and Fink (2005), Birkmann summarises the concept of resilience as the "...capability of a system to maintain its basic functions and structures in a time of shocks and perturbations".

By including the idea of resilience, the definition of vulnerability can be expanded. Vulnerability can be defined as a set of conditions that negatively affect the ability of people to prepare for and withstand disasters (Warmington 1995, Lewis 1997, 1999). Others (Varley (1994), Blaikie (1994), Bolin and Stanford (1998)) have tried to explicitly relate this general set of conditions to individual characteristics of people. These characteristics are determined by the interplay of circumstances within which people find themselves (which include social, economic, political and environmental) as well as structures (such as class, gender, age etc.). Such interplays can have negative outcomes such as poverty, inequality etc, which have varying manifestations across different groups. These outcomes also determine the level of resilience people (households and individuals) have against shocks.

Perhaps the most succinct effort at combining these various aspects of vulnerability is made by Pelling (2003). He argues that vulnerability is the combination of exposure, resistance and resilience. Exposure defines the location of actors (system, individual or household) with respect to a hazard or shocks. Resistance relates to the capacity of actors to withstand the impact of hazards or shocks. Resilience then is the ability of the actor to cope with and/or adapt to the shock.

Wisner et al (2003) have tried to concretise this notion (particularly for natural disasters) through the Pressure and Release (PAR) and Access models. The idea of the PAR models is that vulnerability results from the "...intersection of two forces: the processes generating vulnerability on one side, and the natural hazard event on the other."¹¹ The models propose a progression of vulnerability, over three stages: root causes, dynamic pressures and unsafe conditions. "Root causes reflect the exercise and distribution of power in a society"¹². Politically and economically weak and marginalised groups are usually not important to those who hold power. These groups are vulnerable because their access to resources is low and their sources of livelihood precarious. In addition, these groups are considered a low priority for government intervention. Finally, marginalised groups of people tend to lose confidence in their own capabilities to respond to shocks. "Dynamic pressures are processes and activities that translate the effects of root causes both temporally and spatially into unsafe conditions" (pg. 53)¹³. Wisner et al recognise that these processes themselves may not induce vulnerability per se. They however do acknowledge that this is a field for wider research. Emphasising and elaborating these dynamic pressures is useful because it helps identify unsafe conditions. "Unsafe conditions are the specific forms in which the vulnerability of a population is expressed in time and space in conjunction with a hazard" (pg. 55)¹⁴. Unsafe conditions are dependent upon initial levels of well-being.

The access model "...sets out to explain at a micro-level the establishment and trajectory of vulnerability and its variation between individuals and households. It deals with the impact of a disaster as it unfolds, the role and agency of people involved, what the impacts are on them, how they cope, develop recovery strategies and interact with other actors"¹⁵. Wisner et al provide a detailed outline of the model. "Households earn their livelihoods in normal times and are subject to unsafe conditions and the political economy in which they all live is also shaped by social relations and structures of domination. The trigger even occurs and impacts upon social relations and structures of domination and upon households themselves"¹⁶. This initiates what Wisner et al refer to as the "transition to disaster". The model also captures the course that the disaster takes and how it alters conditions of vulnerability and social protection. The model assumes that decisions regarding livelihoods are made in a given political, social and economic environment. This environment also includes those precautionary measures that are taken to protect the livelihood against shock. When a shock occurs, it influences the environment within which livelihood decisions are made as well as the precautionary measures that safeguard the livelihood. The combined impact of these influences causes vulnerability.

¹¹ Pg. 50 Wisner et al (2003)

¹² Pg. 53 Wisner et al (2003)

¹³ Pg. 53 Wisner et al (2003)

¹⁴ Pg. 55 Wisner et al (2003)

¹⁵ Pg. 88 Wisner et al (2003)

¹⁶ Pg. 88 Wisner et al (2003)

Most recent definitions of vulnerability combine the impacts of internal and external defencelessness. “The underlying causes of vulnerability are economic, demographic and political processes that affect the assignation and distribution of resources among different groups of people” (Cardonna 2003). Vulnerability is correlated with the level of development and results from physical exposure, socio-economic fragility and lack of resilience. By not thoroughly analysing the structural causes of vulnerability, the focus is shifted from the root causes of the problem. This incomplete analysis increases the danger that ‘vulnerable societies’ are seen as passive and non-responsive, requiring external support for their development (Prowse 2003). In order to increase the understanding of the *process* of vulnerability, it is important to place an increased emphasis on people’s entitlements and how these are used to respond to shocks.

Hodinott and Quisumbing (2003) also provide a toolkit to undertake quantitative risk and vulnerability assessments, using household data. They focus on three specific conceptualisations of vulnerability. These include vulnerability as expected poverty, vulnerability as expected low utility and vulnerability as uninsured exposure to risk. While these three approaches are relevant in themselves, they tackle the notion of resilience and exposure to risk separately. Moreover, they rely on either simplistic measures such as consumption or vague measures such as utility. Such measures capture the incidence of poverty and focus on households just above the poverty line. This makes it difficult to quantify the multi-dimensionality of vulnerability.

Based on a thorough analysis of several empirical studies, it can be concluded that the distinction of internal and external defencelessness put forth by Chambers is a useful way of approaching the topic (Bohle 2001). He identifies three ways in which internal and external defencelessness can be characterised. First is the structure (external defencelessness) and agency (internal defencelessness) model. This allows for a distinction to be made between the causes of vulnerability: is it a deficiency in the structures that causes insufficient resilience or is it a lack of action from agents that results in insufficient resilience? The example of the Bengal famine is instructive (Sen, 1981): was it the government’s inability to distribute grain amongst the affected population or simply the inability of the people to produce more?

The second is the ‘access to assets’ model (Moser 1998), which attempts to determine the nature and level of resilience within a society. The access to such assets is determined by the political economy and how integrated communities are within the societies around them.

The third characterisation revolves around the conflict and crisis theory that captures the cycle of risks and coping capacity. One determines and feeds into the other. According to this theory, access to resources is determined by risk and criticality while capacities to cope depend upon the overall vulnerability context. This approach is useful because it captures the interplay between risk and resilience, emphasising the causal structures as well as the impact of vulnerability. The comprehensiveness implied by this approach makes it useful for vulnerability assessments.

Using such conceptual frameworks to model vulnerability resonates strongly with the notions of internal and external deprivation. Livelihood decisions that are taken by individual households determine internal defencelessness while the social, political and economic environment, within which these decisions are taken, determine the external defencelessness. The nature of and access to resources is determined by the internal environment of the

household reacts with the external environment in which households are located. Using these resources, households react to the external environment in which they are located.

Nevertheless in trying to make vulnerability more tangible, these models have a number of shortcomings. These are discussed in the next section.

4.2. Shortcomings of Existing Approaches

Most definitions of vulnerability tend to be general, emphasising what Chambers (2006) has called external defencelessness. They do not give much information about how individuals and households respond to shocks. The second problem with these definitions is that they ineffectively address the concept of resilience, what Chambers has called internal defencelessness. Exposure to risk is a problem for those who do not have sufficient resources to protect themselves against shocks.

This generalisation creates a tendency to use vulnerability as a substitute for poverty (Chambers, 2006). Such a substitution obfuscates the issue: “poverty is often defined by professionals for convenience of counting, in terms of flows of income or consumption. Anti-poverty programmes are then designed to raise incomes or consumption and progress is assessed by measures of these flows. Indicators of poverty are then easily taken as indicators of other dimensions of deprivation, including vulnerability.”¹⁷

Vulnerability assessments carried out by international and donor organisations tend to emphasise transient poverty rather than the intergenerational transmission of poverty (Tesliuc 2002). The focus remains on the poverty process and not the risk management efforts undertaken by households. Moreover, due to the constraints of available data, vulnerability assessments are reduced to one-dimensional.

The approaches mentioned in the previous section focus on the components of vulnerability but they examine vulnerability in isolation. Vulnerability is a complex phenomenon that results from the interplay of various factors, which are altered by the very process of development itself. Dynamic processes evolve, while root causes and unsafe conditions change. These transform the very nature of vulnerability.

Models such as the PAR face two shortcomings. First, the model does not provide a thorough analysis of the pressure points i.e. the points at which the shock begins to unfold. Second, the PAR model is static and does not account for the change either before, during or after the onset of a shock. It gives no information on the ‘normal life’ before the shock hit (pg. 88). To this end, the PAR model should be augmented with the access model, which tries to analyse the nature of access that people have to resources that can contribute towards reducing vulnerability.

To summarise, current approaches in defining vulnerability suffer from three key shortcomings. First, while in theory these approaches are comprehensive, in practice they remain uni-dimensional, emphasising either income or consumption shortfall. Second, they are vague about the causal mechanisms of vulnerability. Most of these approaches do not identify the root causes of vulnerability and the process by which these causes translate into a fall in well being. Third, “...vulnerability assessments will reflect specific objectives of the

¹⁷ Pg. 33 IDS Bulletin Vol 37 No. 4 September 2006

practitioner and the resources – time, money and data – available for this work” (Hodinott and Quisumbing 2003). The next section presents a conceptual framework that addresses these shortcomings.

4.3. Components of Vulnerability

Based on the review above, any workable definition of vulnerability should incorporate resilience as well as uncertainty¹⁸. Resilience is dependent upon the level of entitlements that households have access to. Uncertainty is determined by the types of risks to which households are exposed. Lack of entitlements reinforces the threat that when a risk manifested into a shock, households will not be able to respond. There would be a resultant fall in well being, which causes a greater fall in resources, at the same time adding to uncertainty about the future.

4.3.2 Lack of Entitlements

The effects of a shock lead to a downward fall in entitlements, reducing the ability to cope with the impact of shock. Entitlements define the relationships between households or individuals and those resources that can be used to ‘get relief’. In addition, the focus here is on the level of entitlements at a moment in time that influences an individual or household’s ability to deal with risks and shocks at that moment as well as into the future. This is the level of resilience households and individuals possess against unforeseen shocks. The lower the level of entitlements the less is the ability of agents to protect themselves against negative manifestations of risks.

Thinking of vulnerability as, at least in part, resulting from the lack of sufficient entitlements to maintain a level of well being borrows from the poverty dynamics literature, which suggests that vulnerability is the movement around a pre-determined poverty threshold over time.

4.3.1. Exposure to Risk

According to the WDR 2000/2001, exposure to risk refers to the probability that a risk will occur. Risk refers to those uncertain events that can lead to a fall in well being; ‘uncertain’ because the timing and magnitude of these events is not known. As conceptualised here, exposure to risk contributes towards vulnerability in two ways. First, risks can manifest into shocks in the future, leading to deprivation for those who are unable to maintain a minimum standard of well-being when faced with these shocks. Second, it leads to uncertainty about the future, wherein the probability of a potential risk manifesting itself becomes higher making it inter temporal in nature. It is this indirect impact of exposure to risk that has a greater influence in making an individual or household vulnerable. It is compounded by the fact that such prolonged exposure to risk inhibits poor from developing robust coping strategies, leading to further deprivation. The poor are vulnerable because they face diverse risks and lack the means to protect themselves adequately against them. And once these risks manifest themselves into shocks, the poor either have few assets to dispose off or the depletion of these assets would plunge them into further long-term poverty (Kanbur and Squire 1999). The feeling of defencelessness makes the poor highly risk averse and hesitant

¹⁸ Key authors that have tried to incorporate the idea of resilience and uncertainty into the definition of vulnerability include Scoones (1997), Twigg (2001) and Heijmans (2001)

to engage in high risk high return activities: while these could lift them out of poverty in a sustainable manner, one slip could plunge them deeper into deprivation.

The extent to which these risks affect well being depends on what resources households have or are able to acquire; these resources could be political, social, economic etc. As defined earlier, a set of such resources over which a person can exercise ownership rights is referred to as entitlements (Dreze and Sen 1989).

To conclude, exposure to risk created by the environment surrounding the household leads to what Chambers has called external defencelessness. A shock makes this environment fragile, thereby creating uncertainty. However, as highlighted above, shocks have an additional impact in that they reduce the absolute amount of entitlements available to households, what Chambers would call internal defencelessness. Combining the terminologies of Sen and Chambers, vulnerability is caused when entitlements at the household level are diminished and the environment surrounding the household is such that entitlements cannot be converted into functionings. Households and individuals become exposed to risks when the resources that they can access to reduce vulnerability are not only diminished but also threatened.

The next section applies this conceptualisation of vulnerability to the specific case of post conflict environments.

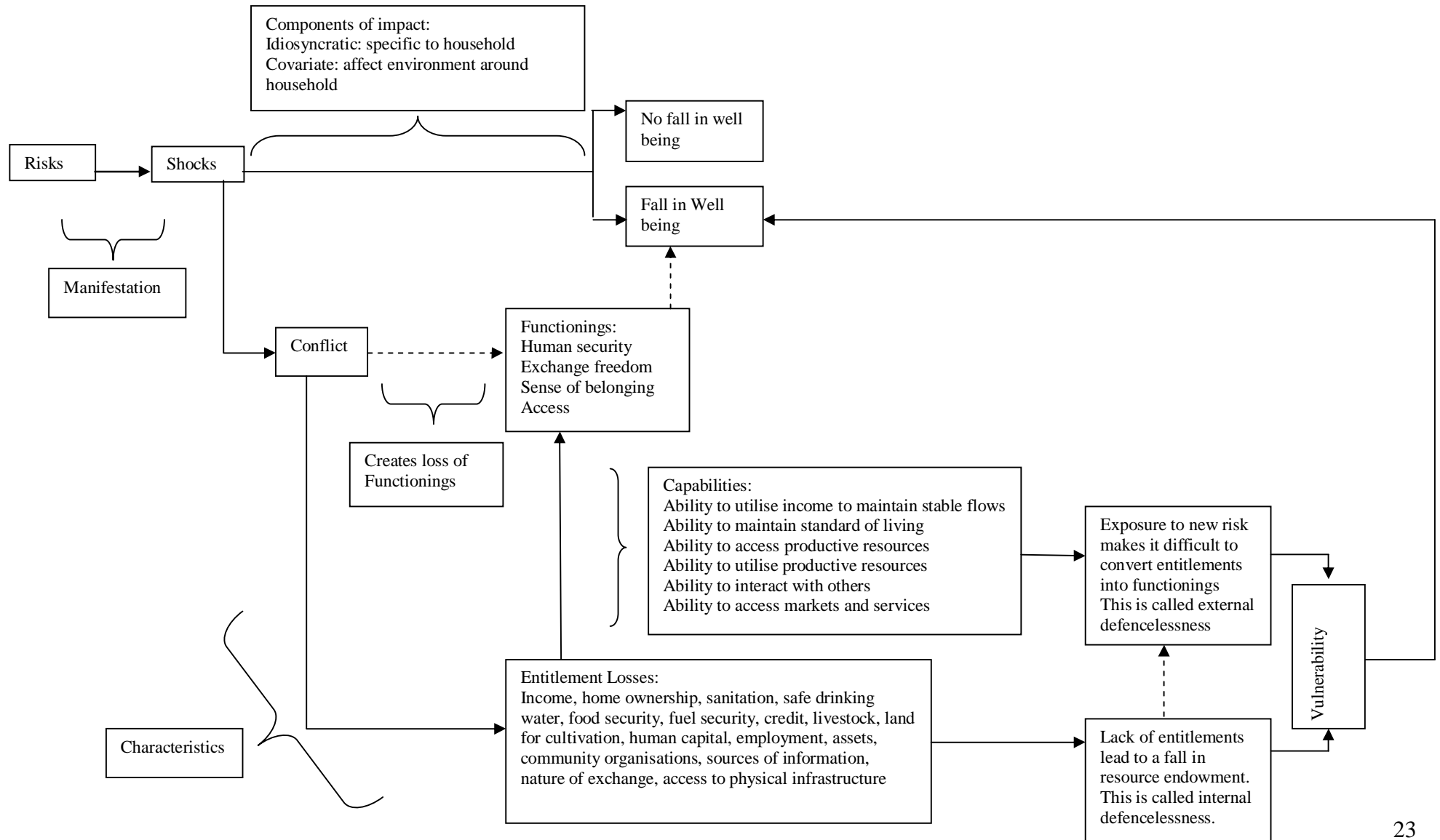
4.4. Conflict and Vulnerability

The previous section develops a framework to conceptualise post-shock vulnerability. This section applies the framework to the specific case of conflict. Conflict increases exposure to risk as in it changes the structure of entitlements, both privately owned and conferred. The occurrence of the conflict creates new risks that give rise to uncertainties about the future, especially in regard to fragile income flows that increase the likelihood of consumption shock. This situation is accentuated by the fact that conflict reduces the state's ability to help households and individuals in developing more secure sources of livelihood. Fragile income flows are a direct result of the stagnant macroeconomic situation characterised in the immediate post conflict environment. Social and political conditions are adverse, leading to a reduction in the opportunities available to redress situations of shock. In a nutshell therefore, conflict not only alters the legal rights to resources that influence an individual's well being but also changes their availability. These characteristics create functioning losses across four broad categories, including: loss of human security, which relates to individual security and well-being over time; loss of space to utilise exchange entitlements; loss of social capital, which erodes a sense of belonging; and, the loss of productive infrastructure that reduces and slows down economic development.

Figure 2 links these concepts diagrammatically to provide an overall framework by which post conflict vulnerability can be defined and understood. As the diagram shows, risks manifest into shocks. Shocks have varying impact on well being: for some households, there is high fall in well being whereas for others, there is either none or little fall in well being. The fall in well being occurs because households become vulnerable. This connection between the occurrence of a shock and vulnerability is a process. Using the specific example of conflict as a shock, this research aims to define vulnerability in terms of entitlements, capabilities and functionings losses. The occurrence of a conflict creates functionings losses, which can be explained by two factors. First is a shortage in entitlements that reduce resource endowments. The second is a breakdown in the process that enables households and

individuals to convert their entitlements into functionings. The second factor increases exposure to risks. Together, the fall in entitlements and the heightened exposure to risks creates vulnerability. The aim of this research is to understand these components of vulnerability. In doing so, the research views vulnerability as a process rather than a simple phenomenon.

Figure 2: Diagrammatic Interpretation of Vulnerability



The shortage in entitlements and breakdown of capabilities contribute towards vulnerability through overlapping conduits. The first impact is that entitlements to which households have access fall. This reduction makes households more exposed to different types of risks that exist in the environment surrounding the household.

To recall, functioning losses are broad and difficult to measure. It is therefore important to categorise them in terms of capabilities and entitlements. This is necessary to identify the root causes of vulnerability and highlight those conduits through which entitlement loss and capability failure influence vulnerability. Through this analysis, it is possible to conceptualise vulnerability as a process rather than simply a phenomenon. Table 2 attempts to identify how losses contribute towards reduced entitlements and how they increase exposure to risk. It shows for each entitlement highlighted in Table 1, whether it is the *lack* of the entitlement at a point in time or its *affect over time* (or both) that leads to vulnerability.

Table 2: Linking Vulnerability to Post Conflict Environments

Entitlements	Lack of Entitlements	Exposure to Risk
<i>Functioning 1: Human Security</i>		
Income	<ul style="list-style-type: none"> • Low mean amount • Low availability • Informal sources 	<ul style="list-style-type: none"> • Volatility over time • Low saving possibilities
Ownership of homestead	<ul style="list-style-type: none"> • Asset value • Type of living arrangements 	<ul style="list-style-type: none"> • Shelter over time determined by condition
Sanitation	<ul style="list-style-type: none"> • Type of sanitation 	<ul style="list-style-type: none"> • Unsafe drinking water and sanitation facilities create health risks
Clean drinking water	<ul style="list-style-type: none"> • Source of water 	
Food security	<ul style="list-style-type: none"> • Link with economic conditions 	<ul style="list-style-type: none"> • Ability to meet consumption needs over time
Fuel for heating and cooking	<ul style="list-style-type: none"> • Cost of fuel 	<ul style="list-style-type: none"> • Reliability of fuel source • Extent of protection against climate
<i>Functioning 2: Exchange Freedom</i>		
Sources of credit	<ul style="list-style-type: none"> • Access to credit • Purpose of credit 	<ul style="list-style-type: none"> • Sources of credit
Ownership of livestock	<ul style="list-style-type: none"> • Amount of livestock 	<ul style="list-style-type: none"> • Ability to maintain livestock over time
Ownership of land for cultivation	<ul style="list-style-type: none"> • Amount • Usage • Asset value • Land management patterns 	
Human Capital	<ul style="list-style-type: none"> • Level of education • Important categories of employment 	<ul style="list-style-type: none"> • Employability over time
Employment in income generating activities	<ul style="list-style-type: none"> • Who participates 	<ul style="list-style-type: none"> • Under-utilisation of labour
Ownership of tradable assets	<ul style="list-style-type: none"> • Types of assets • Number of assets 	<ul style="list-style-type: none"> • Ability to exchange assets
<i>Functioning 3: Social Capital</i>		
Membership in community organisations	<ul style="list-style-type: none"> • Type of organisation 	<ul style="list-style-type: none"> • Reliability of source of information • Informal risk management
Sources of Information	<ul style="list-style-type: none"> • Extent of awareness 	
Mutual Support/help	<ul style="list-style-type: none"> • Nature of support given and received 	
<i>Functioning 4: Nature of Access</i>		
Physical infrastructure	<ul style="list-style-type: none"> • Availability 	<ul style="list-style-type: none"> • Access to services and markets • Pattern of utilisation

The first functioning loss that causes vulnerability is human security. Low mean income and few sources that lie mainly in the informal sector reduce household entitlements. The fragility of the external environment makes income volatile over time. In addition, the low mean

income reduces saving possibilities. House ownership increases household wealth and the condition of the house determines the quality of shelter over time. The types of sanitation and drinking water at the disposal of households determine the nature of entitlements. Poor sanitation and unsafe drinking water expose households to health risks. Food security determines the extent to which households can meet consumption needs over time. Fuel for cooking and heating reduces household entitlements when households are required to pay for them. Moreover, when fuel sources are informal, their reliability is not guaranteed.

Second, there is a loss of freedom to exchange entitlements. Not having credit reduces entitlements at a point in time. Besides, if the source of credit is not reliable, uncertainty about the future increases. Ownership of land and livestock is an important determinant of the level of entitlements owned by households, not only for trade purposes but also for producing other entitlements. Low level of human capital results in reduced entitlements at the household level. This impacts upon the type of work that households can access. Unskilled labour usually finds work in the informal sector where possibilities of earnings are not high. The ability to participate in income generating activities may be restricted due to at least two factors: availability of opportunities as well as cultural values. This reduces the possibilities to enhance entitlements at the household level and creates under-utilisation of labour over time. Low level of ownership of tradable assets is a lack of entitlement. Even when households own assets, they may be unable to exchange them. This exacerbates uncertainty.

The third functioning loss, reduced sense of belonging, results from reduced social capital. Social capital is a key determinant of informal risk mitigation and coping strategies. Therefore, social capital is important for risk management over time. Greater social capital at the village level also enhances entitlements at a point in time because it allows households to participate in development initiatives as well as capture economies of scale.

The fourth functioning loss relates to access, which is provided by production and welfare oriented communications infrastructure. This is essential to promote i) growth that expands employment opportunities; ii) access to social services; and, iii) delivery of targeted social schemes for the poor (Bradhan 1995, World Bank 1990, UNDP 1996). It is widely seen to promote integrated rural development and is therefore essential for peacebuilding. Where communities are effectively represented in the identification, construction and maintenance stages of infrastructure creation, provision of rural infrastructure is seen to increase social accessibility (Barrios 2007). Lastly, many studies have shown that infrastructure provision contributes positively towards economic growth.

While not comprehensive, Table 2 endeavours to capture the first round impact of functioning losses. Not being able to attain these functionings, whether due to lower entitlements or ineffective conversion of entitlements into functionings not only perpetuates exposure to risk, but also hinders household efforts towards building reserve entitlements. This inability can persist over time or can be the result of endowments at a point in time that determine the future.

As the literature suggests, the above is one possible approach to conceptualise and measure vulnerability. There are a number of caveats that ought to be kept in mind when practically applying this approach and limitations that can perhaps reduce the strength of the analysis. These are discussed in the next section.

5. Limitations

The use of entitlements, capabilities and functionings to understand post conflict vulnerability should be treated with caution. First, since there is no universal definition of the key concepts in the manner Sen had initially conceived them, the emphasis is placed on a minimum basic set of functionings. Nevertheless, the key thrust of the approach remains valid in that there is still freedom to choose functionings. An individual is free to determine functionings that are in agreement with his notion of well being and then utilises entitlements in a manner that enables to achieve this objective. Second, in linking entitlements to vulnerability, the approach emphasises legal possession and command over resources. In post conflict environments, the collapse of legal systems that ensure possession and command over resource is only one factor that contributes towards vulnerability¹⁹. This research argues that, in addition, it is the decline in and uncertainty of control and command over exchange entitlements, which leads to vulnerability. This state is crystallised with a collapse in spaces where entitlements could be exchanged. Third, when used in this context, the entitlement approach does not seek to explain the history and evolution of the conflict itself or the politics behind it, rather it provides a framework to analyse manifestation of vulnerability to well being in post conflict environments.

Fourth, the impact of war can be divided into three broad clusters (Devereux, 2001). The first covers the disruptive effects of war in terms of reduced exchange entitlements and endowments. The second cluster delves in extra-entitlement transfers that relate to those practices, which are extra-legal and deal with individuals seizing entitlements by force. The third cluster is about those effects that are "...socially engineered to undermine entitlements" (Fine, 1997 pg 627). The entitlement approach is effective only to analyse the effects of the first cluster and remains ineffective in dealing with the challenges raised by the second and third cluster of impacts.

Three key limitations make it difficult to operationalise the framework of vulnerability developed in the previous section. First is the issue of defining thresholds, essential for any poverty assessment. Comparing a situation vis-à-vis a criterion or baseline gives a comprehensive picture of the problem. The second problem relates to the multi-dimensionality of vulnerability. In post conflict environments, vulnerability is determined by more than just income or consumption loss. It is difficult to measure and analyse these myriad losses in a comprehensive manner. The third inhibiting factor is specific to post conflict environments and relates to challenges that hinders the assessment of post conflict needs, post conflict needs assessment, planning and reconstruction work. Since needs continue to evolve, these change functionings and the causes of vulnerability.

6. Conclusions

This paper attempts to develop a framework that can be used to measure multi-dimensional vulnerability in post conflict environments. It defines conflict as a one-off shock that creates four categories of losses. These losses create vulnerability not just by reinforcing poverty but also by creating uncertainty about the future. This link between losses and vulnerability is explored using the ideas of entitlements, capabilities and functionings. The paper argues that losses (functionings), are caused by lack of available resources (entitlements) as well as the inability to utilise (capabilities) these resources. Such an analysis of the link is necessary for a

¹⁹ This is not to deny the critical importance of legal institutions in post conflict reconstruction. It is, in fact, one key tool nascent governments of post conflict environments can use to garner political legitimacy.

number of reasons. First, it helps clearly identify *how* individuals and communities are exposed and to what. Second, it allows for flexibility when identifying the ‘incandum’ i.e. the characteristics of interest. This flexibility makes the measurement broader than the approaches discussed above. Third, it is concise in outlining the nature of policy interventions. Such policy interventions need not focus on rapid response but also sustainable development initiatives. Most importantly, these could include prevention and mitigation strategies as well as ex-post coping strategies.

The research suffers from three key limitations. First, defining thresholds is difficult and arbitrary. Without proper baselines for comparison, it is difficult to make a comprehensive vulnerability assessment. Second, while multi-dimensional analysis is better than using simple consumption and income based measures, the dimensions are determined by individual choice, which makes collation difficult. Also, vulnerability assessments based on multi-dimensional losses are determined for a particular context and cannot readily be compared with other assessments. Third, as post conflict needs continue to evolve, the structures of control over resources also change and evolve. The approach does not necessarily take this into account.

Given these advantages and disadvantages of the proposed approach, there are three main hypotheses that the subsequent research should test. First, vulnerability in post conflict environments is multi-dimensional. Vulnerability in post conflict environments is caused because there is a fall in entitlements. Vulnerability in post conflict environments is caused by a breakdown in capabilities that increase exposure to risk. These hypotheses are relevant when trying to measure post conflict vulnerability. They are also relevant when trying to propose relevant policies that respond to vulnerability.

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