A new protocol in Disaster Risk Reduction policy and praxis for the Southern Africa region: Gender-age socio-behavioural intervention and the GIRRL Programme Model

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PREFACE

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ABSTRACT

The study looked at the importance of understanding the situational context (as the basis for defining social conditions) and the need for an intersectional approach across dimensions of identity for framing the unique disaster risk profile of Southern Africa. Disaster risk reduction policy and praxis in the region has not yet reached a stage where it is ready to recognise and prioritise the specific needs and contributions of distinctly vulnerable sub-groups (for example adolescent girls). As such, there is an inherent need to revise how risk reduction efforts are devised in order to protect these persons. In utilising a multi-site case study approach focusing on the Girls in Risk Reduction Leadership (GIRRL) Programme, the research engaged key informant interviews, focus group discussions and document analysis in collecting targeted data. The findings are presented across four articles. The first article provides the conceptual framework and justification for appreciating the situational context and for using an intersectional analysis of gender and age as elements of identity based on the context of Southern Africa. It encourages an understanding of the underpinnings of vulnerability as a means of reducing risk and introduces the Gender Age Socio-Behavioural Intervention (GASBI) Model, as the resulting protocol developed to address the gaps and weaknesses identified. The second article presents the status of disaster risk reduction (DRR) policy and praxis in the region and has submits the GIRRL Programme Model as an application of the GASBI Model aimed at targeting adolescent girls as a distinctly vulnerable group. The third article articulates the GIRRL Programme's use of the Participatory Action Research (PAR) approach to encourage active engagement and empowerment. The PAR approach was identified in response to the marginalisation and vulnerability faced by adolescent girls, derived from social inequality and reflected in discriminatory power allocations and limited access to resources. The final article uses the Human Rights Based Approach as grounding for the evaluation of the GIRRL Programme's contributions to DRR within the context of Southern Africa based on the inherent links between social inequality and vulnerability and risk. Overall, it is acknowledged that GASBI and its applications (such as the GIRRL Programme), recognise the need for understanding the situational context and the intersectionality of multiple elements of identity (particularly gender and age) as requisite for framing the unique risk profile present in Southern Africa. It is imperative that DRR policy and praxis be driven by these considerations in order to be effective.

Keywords: Girls in Risk Reduction Leadership Programme, Gender Age Socio-Behavioural Intervention, Disaster Risk Reduction, Adolescent girls, Intersectionality, Southern Africa

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ABBREVIATIONS

ACDS	African Centre for Disaster Studies
AIDS	Acquired Immune Deficiency Syndrome
AR-DRMU	Africa Region Disaster Risk Management Unit
AU	African Union
CARE	Cooperative for Assistance and Relief Everywhere, Inc.
CBDRR	Community Based Disaster Risk Reduction
CDC	Community Disaster Committees
DICE	Drought Mitigation through Irrigation Promotion and Conservation Agriculture Extension II
DMMU	Disaster Management and Mitigation Unit
DRRU	Disaster Risk Reduction Unit
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
EAGER	Engaging African GIRRLs in Gender Enriched Risk Reduction
GASBI	Gender Age Socio-Behavioural Intervention
GFDRR	Global Fund for Disaster Risk Reduction
GIRRL	Girls In Risk Reduction Leadership
HIV	Human Immunodeficiency Virus
HRBA	Human Rights Based Approach
IAG	Integrating Adolescent Girls into Community Based Disaster Risk Reduction in Southern Africa Project
KKDM-DMC	Dr. Kenneth Kaunda District Municipality – Disaster Management Centre
LES	Lesotho
LIG	Livelihoods as Intimate Government Model
MAL	Malawi
MICA	Mountain Integration Conservation Agriculture I
NWU	North-West University

OFDA	Office of Foreign Disaster Assistance
PAR	Participatory Action Research
PRIZE	Promoting Recovery in Zimbabwe Project
PURRZ	Peri-Urban Risk Reduction in Zambia Project
SA	South Africa
SADC	South African Development Community
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
UK	United Kingdom
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction
USA	United States of America
USAID	United States Agency For International Development
ZAM	Zambia
ZIM	Zimbabwe

SECTION A: ORIENTATION OF THE STUDY

1.1 Orientation and Problem Statement

Adolescent girls face a double burden derived from vulnerabilities associated with their gender as well as their limited age within the context of natural disaster risk (Back *et al.,* 2009; Swarup *et al*., 2011, Fordham, 2012; Plan International, 2010; Plan International, 2013). Independent characteristics such as young age or being identified by the female gender can contribute to inequalities which reinforce vulnerability in certain settings. However, when characteristics are combined, as in the case of adolescent girls who are both young and female, the vulnerability faced by this group is significantly amplified (Swarup *et al.,* 2011). As a result, girls are often seen to possess dual roles – as being both 'visible' and 'invisible' (United Nations International Strategy for Disaster Reduction Secretariat, 2012). Their visibility is illuminated based on the media's portrayal of this group as 'traditional' victims in disasters and emergencies (Enarson & Morrow, 1998; Swarup *et al.,* 2011, Fordham, 2012, Bradshaw & Fordham, 2013). Conversely, they are also invisible because girls are still overlooked as their views and opinions continue to be disregarded in disaster risk reduction policy, planning and praxis (Swarup *et al.,* 2011, Plan International, 2013; Bradshaw & Fordham, 2013). Vulnerabilities associated with gender and young age, have been exacerbated by the fact that adolescent girls are not able to assist in the reduction of risk or to contribute to the recovery process thereafter, putting them in an unfavourable position.

The research theme acknowledged both gender and age as important elements of social identity. These elements have further shaped the lived experiences of adolescent girls and subsequently have a role to play in defining the degree of risk they face.

It has been acknowledged that disasters themselves were referred to as a 'social' phenomena resulting from the fact that disaster risk is exacerbated by vulnerabilities derived from social conditions, structures and processes (Renn, 1992). Hence, it is essential to target factors such as gender and age in efforts to reduce risk. It is impossible to consider disaster risk without acknowledging the contribution of social conditions. Social conditions shape how gender and age are perceived within a particular context and these conditions also influence how persons are able to deal with adversity (Cutter *et al.,* 2003; Neumayer & Plumper, 2007; Cutter & Finch, 2008).

The incorporation of 'gender' was reflective of the further realisation that women and girls generally tend to be the predominant victims of natural disasters (Bradshaw, 2013). Women often suffer to a

greater degree than men in disasters and are burdened physically and emotionally during the recovery period (Fordham, 2012: 424). Physiological and biological differences between the sexes are unlikely to explain large-scale gender differences independently. Social norms (i.e. patriarchal culture) and role behaviours provide further explanations for vulnerabilities associated with gender (Neumayer & Plumper 2007). The age consideration draws its importance as the impact of disasters has been documented as being severe for children and this impact has the ability to negatively influence not just their present existence but also their future (livelihood) opportunities (Back *et al.,* 2009; Babugara, 2012).

Plan International (2010:3) recognised the importance of "prioritising the most vulnerable and ensuring their participation in disaster risk reduction/management" but confirms that it has "not effectively been realised with respect to children" (Wachtendorf et al. 2008; Mitchell et al 2008). According to the United Nations Convention on the Rights of the Child, a child is referred to as "a person below the age of 18, unless the laws of a particular country set the legal age for adulthood younger" (UN General Assembly, 1989). Curtis (2015, 1), citing American Psychological Association (2002) presents adolescence as including persons from the age of 10-18 years. As a result of the threat to this group, it is imperative to acknowledge that children have the right to be protected from disasters, the right to participate in decision-making and action to prevent disasters and even adapt to climate change (Institute for Development Studies, 2012). It is requisite that children be placed in the centre of risk reduction efforts and climate change adaptation strategies (Institute for Development Studies, 2012). On the one hand, it has also been recognised that gender has failed to be incorporated into risk reduction efforts. Acts of gender discrimination reinforce vulnerability and often endanger the lives of females in disasters (Ikeda, 1995; Enarson & Morrow, 1998; Briceno, 2002; Anderson, 2009; Fordham 2012).

Sub-Saharan Africa's disaster profile is closely linked to the vulnerability of its population, the economy and is exacerbated by minimal coping capacities (The World Bank, 2010:vi). Disaster risk on the African continent has been intensified by the high levels of vulnerability linked primarily to conditions associated with poverty and under-development, vulnerable livelihoods, population growth patterns and the Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) epidemic (Holloway, 2003; Vordzorgbe, 2006; Casale *et al.,* 2009; The World Bank and the International Bank for Reconstruction and Development, 2010; United Nations Economic Commission for Africa, 2015). Vulnerability in the region has been secured based on limited access to financing for investment in DRR and recovery, strong economic roots in rain-

dependent agriculture, poor infrastructure available to monitor and manage resources for recovery from severe hazard impact, limited governmental and institutional capacities and insufficient early warning and response capacity for natural hazards (The World Bank and the International Bank for Reconstruction and Development, 2010). These conditions exacerbate vulnerability within Southern Africa and further contribute to the risk faced by women and children in the region.

On the whole, the African continent has generally acknowledged the threats posed by disasters. The Global Fund for Disaster Risk Reduction (GFDRR) has instigated funding for the United National International Strategy for Disaster Reduction (UNISDR) Africa Region to help leverage and lobby for resources necessary to implement the Hyogo Framework for Disaster Risk Reduction (Vordzorgbe, 2006). Additionally, the GFDRR is assisting in the integration of risk reduction into national level policy and development plans as well as supporting loss assessment and damage monitoring (The World Bank and the International Bank for Reconstruction and Development, 2010). The African Union (AU), as a regional coordinating body, has prioritised the development of institutional frameworks, good governance practices, emergency response risk identification and knowledge management as key aspects of the risk reduction strategies (The World Bank and the International Bank for Reconstruction and Development, 2010). However, limited efforts and acknowledgements exist to include activities to look at the specific nuances that contribute to the unique nature of vulnerability within the region. Specific attention to gender and age considerations is minimal in DRR efforts in policy and praxis.

Within the last forty years, the Sub-Saharan African region has experienced over 100 disasters, with the majority of them occurring within the last five years (The World Bank and the International Bank for Reconstruction and Development, 2010). The Southern African region has also reflected similar sentiments in its struggles against the increased frequency and impact of hydro-meteorological hazards such as drought and flood events (Vos *et al.,* 2010). Data collected indicates the scale of impact for selected countries within Southern Africa has been significant, with over 41 million persons being affected by natural disasters across just five (5) selected countries during the 2000-2011 periods as presented in Table 1-1.

	Lesotho	Malawi	Zambia	Zimbabwe	South Africa	Total
Drought	1,700,000	8,449,435	1,200,000	9,780,000	15,000,000	36,129,435
Earthquake (seismic activity)	0	20,736	0	0	58	20794
Epidemic	1834	61944	26829	116,290	112,385	319,282
Flood	5000	1,328,312	3,027,208	331,820	333,328	5,025,668
Storm	6501	8	0	0	118,655	125,164
Total	1,713,335	9,860,435	4,254,037	10,228,110	15,568,801	41,624,718

Table 1-1: Total Affected by Natural Disasters in Selected Countries in Southern Africa 2000-2011 (Guha-Sapir *et al.,* 2014)

The Southern African Development Community (SADC) Disaster Risk Reduction Unit (DRRU), as a representative regional agency operating within Southern Africa, documents the inherent and imperative need to prioritise risk reduction (Southern African Development Community, 2010). Unfortunately the strategies presented are broad and generalised (International Resources Group Ltd, 2001). It is a general criticism that DRR policy is too broad and fails to prioritise local level actualisation. The risk reduction agenda is presented primarily at the regional and national levels, which leaves a great void for guiding practical applications (Southern African Development Community, 2012). It is devoid both of the explicit recognition of vulnerable groups and the acknowledgement of the need to specifically target these groups through local level initiatives (International Resources Group Ltd, 2001). Optimistically, one could at best hope that vulnerable groups such as women, children or specifically adolescent girls are 'implicitly' represented within the disaster agendas of the Southern African region (The World Bank and The International Bank for Reconstruction and Development, 2010). However, this lack of specificity suggests that 'gender-age' sensitivity has not yet come of age in Southern Africa's disaster risk reduction agenda. This gap in DRR policy and praxis in Southern Africa creates a void that needs to be addressed and acknowledged in order for effective protection of the region's most vulnerable groups.

It is the position of this research that several factors mandate the integration of gender–age considerations into disaster risk reduction in the region. The central theoretical framework, which is

used to ground the study, is entrenched in a combination of disaster risk, vulnerability and sociological discourse. Renn (1992) provides the original research that recognises disasters as social phenomena. This implies that efforts to understand disasters and disaster risk must incorporate an analysis of factors external to the hazard itself but inclusive of social processes, structures and actors (Blaikie *et al.,* 2003; Cannon, 2017). This establishes the importance of linking disasters to the social context. Vulnerability serves as means of understanding the susceptibility of certain individuals and groups and seeking to frame this susceptibility within the dynamics of the social context. This notion builds on the value of the appreciating the conditions present within a specific time and place such as in the work Cutter *et al.*(2008) and similarly, in (Alexander's, 2012) promotion of understanding the role of localised culture as critical to informing vulnerability and risk.

The second concept subscribes to the notion that disaster impact and risk are influenced by conditions of vulnerability. It recognises that disaster impact is not uniform across populations but varies based on conditions which impair or enable groups to withstand adversity. These conditions of vulnerability are determined by characteristics which would enable or detract from an individual's ability to withstand adversity (Wisner & Luce, 1993; Cutter *et al.,* 2003; Dwyer *et al.,* 2004; Bankoff *et al.*, 2004; Enarson 2007).

The third concept suggests that elements of social identity, such as age, gender, race and class, influence the 'lived experience' of persons (Jenkins, 2014). As such these factors have implications for the way persons respond to adversity and contribute to the increased or decreased susceptibility of individuals or groups (Cutter et al 2009; Enarson, 2007, Enarson & Fordham, 2010). Social Practice Theory is applied to justify how identity shapes lived experiences and social practices. This understanding serves as the basis for defining how social practices can contribute to increased vulnerability and how changing these practices can serve as a means of reducing vulnerability (Jenkins, 2014).

The fourth aspect acknowledges that analysis based on "a priori" determinants of vulnerability is insufficient for comprehending the dynamics of complex risk (Carr *et al*., 2015:1). There is a need to transcend beyond traditional ideas of vulnerability which tend to target single conditions as exclusive or separate such as gender or age or race. Alternatively, it suggests the need for a multi-dimensional analysis of identity as a means for ensuring a more comprehensive understanding of vulnerability

within Southern Africa. Intersectionality, as a concept, denotes that individuals have “multiple, shifting and layered identities” and when two of more of these elements come together, they become “inseparable” (Babouri, 2014: 1). The intersection of elements within a specific social context further shapes the lived experiences of various persons and can be used to develop a deeper conceptualisation of the vulnerabilities they have and its roots.

Intersectionality has also been used as a tool for appreciating the dynamics of power and oppression (Valentine, 2007). This multi-dimensional analysis of intersectionality has been used as a lens for appreciating the nature of marginality which results from power imbalances. It creates an opportunity for understanding how an individual’s surroundings (internal and external environments) can create consequences which influence his/her access to rights and equal representation in society. Intersectionality further attempts to articulate the failures of human rights to represent and protect the rights of marginalised persons (Taefi, 2009). Marginalisation negatively influences the ability of persons to protect themselves and rebound from adversity (Carr *et al.,*2015). The prioritisation of the protection of human rights as a means of protecting individuals against marginalisation is critical in reducing their vulnerabilities. The application of the Human Rights Based Approach is one such tool for ensuring that marginalised persons are included in disaster risk reduction (Forbes-Genade & Van Niekerk, 2017).

The last decade indicates the escalating prevalence of risk among the financially disenfranchised majority within the Southern Africa region. Studies suggest that women and children, girls in particular, constitute the most vulnerable social groups affected by disasters (Enarson & Morrow, 1998; Neumayer & Plumper, 2007; Enarson & Fordham 2010;, Forbes-Biggs & Maartens, 2012; Bradshaw& Fordham, 2013). The use of broad, non-specific terminology within statutes and policy frameworks operative in the Southern African disaster risk context further exacerbates the discriminatory praxis of disaster risk management in this region.

1.2 The Importance of Gender Age Considerations in Risk Reduction

The study proposes that, based on the acknowledged causal links between social factors and increased vulnerability, as well as the realisation of vulnerability’s relationship to the manifestation of disaster risk, there is a direct need to examine and target socially rooted problems in order to reduce risk (Renn, 1992; Blaikie *et al.,* 2003; Cutter *et al.,* 2003; Adger, 2006; O'Brien *et al.,* 2009,

Cannon, 2017). In most cases, efforts to examine or profile vulnerability are undertaken at the level of the 'community'. However, this makes unrealistic assumptions that all members of one 'community' face the same risk and have equal access to the same resources and services (O'Brien *et al.,* 2009). What has been also often overlooked in research and praxis are the differential effects of shocks and stressors on some populations and individuals as well as the failure to appreciate the drivers of vulnerability for particular groups which can predict outcomes (O' Brien *et al.,* 2009).

Elements of gender and age as social constructs are two primary elements of identify that influence lived experiences (Jenkins, 2014). It has been established in studies and reports that more women and girls die as a result of disasters than men (Enarson & Morrow, 1998; Thurairaja & Baldry, 1998; United Nations International Strategy for Disaster Reduction Secretariat, 2008; Plan International, 2010; Plan UK, 2010; Fordham, 2012). Disaster impact has implications across gender and age lines. The underlying justification is linked to how and why girls are so severely affected by disaster impacts. The degree of effect varies by context and by the children's attributes such as age and gender (Kousky, 2016; 85). The explanations could be drawn to deficiencies such as girls lacking physical skills like swimming or climbing (Plan UK, 2010; Swarup *et al.,* 2011). These basic skills are often the requisites for surviving floods, earthquakes or landslides – yet they are skills that, because of social prejudice, are also discouraged activities for girl children in many countries (United Nations International Strategy for Disaster Reduction, 2009). As a result, girl children drown, are buried or trapped during severe hazard impact. However, social prejudices influenced by local culture and subsequently ascribed gender roles also inhibit or prevent girls from adequately protecting themselves from the effects of adversity. For example, in some cultures, the mobility of girls outside of their household is limited. Subsequently without the consent of the male head of household; girls, and often their mothers; refuse to heed evacuation warnings for fear of being disciplined or reprimanded (United Nations International Strategy for Disaster Reduction, 2009). Lack of access to public awareness information and understanding of early warning systems also contribute to girls' inability to prepare for and withstand hazard impact and adversity (United Nations International Strategy for Disaster Reduction, 2009; Swarup *et al.,* 2011).

Both gender and age, as element of individual identity, play a significant role in shaping the lives of persons. It is only with the understanding of how gender and age contribute to increased vulnerability and hence risk, within specific contexts, that policy makers and practitioners can start to take action to help protect those facing the greatest threat.

1.2.1 Gender Age Socio-Behavioural Intervention-The Concept

The study frames the aforementioned realities in what is offered by the researcher as the *Gender Age Socio-Behavioural Intervention (GASBI)*. The GASBI is being proposed as a practical and localised model to specifically identify and address the unique social drivers of vulnerability for a target group (defined by both gender and age) within Southern Africa. GASBI is a model which responds to the need for situational and intersectional framing of identity as the basis for appreciating and prioritising DRR in the unique context of Southern Africa. A situation analysis of the region reveals that Southern Africa is negatively influenced by poverty and under-development, the prevalence of vulnerable livelihoods, growth patterns that show a sudden surge in the child population and the implications of the HIV/AIDS epidemic. Each of these factors has implications for risk by increasing the vulnerability of affected groups across multiple spheres such as health, welfare and resource ownership. The effects are significant across gender and age lines and serve to increase the inability of the affected population to withstand adversity. The model is derived from a strategic combination of leading theories linked to disasters, vulnerability and social practice to address the unique nature of risk in the region by targeting highly vulnerable groups such as adolescent girls (Wisner & Luce, 1993; Cutter *et al*., 2003;Plan International 2012; Bradshaw & Fordham 2013).

GASBI first recognises the foundation of disaster theory, particularly drawing from the works of Perry (2007), Renn (1992), Dombrowsky (1995) and Mileti (1999) which support the belief that disasters are social functions influenced by social conditions and practices. (Braveman, 2010, 33) provides a definition of social conditions as being "the array of social, economic and political circumstances, including the built environments that strongly shape and are shaped by those circumstances in which people live and work ". She (Braveman, 2010, 33) adds that:

> Social conditions include not only features of individuals and households such as income, wealth, educational attainment, family structure, housing and transportation resources, but also features of communities such as the prevalence and depth of poverty, rates of crime, accessibility of safe places to play and exercise, availability of transportation to jobs that provide a living wage and availability of good schools and sources of nutritious food in a neighbourhood

The study endeavours to understand how social conditions show social practices and create increased vulnerability for certain groups, particularly adolescent girls in the region. Cutter *et al.*(2008) present a 'place-based' model of vulnerability which highlights the importance of understanding how the social specificities of location influence the population's dynamics.

(Alexander, 2012) further narrows the social perspective to focus on understanding of culture for appreciating conditions which influence vulnerability.

The second framing theory recognises the disparities of disaster impact across the population. Studies conducted by Cutter (1996; 2003; 2008; 2009), Wisner and Luce (1993), Adger (2006), Füssel (2007) and Cannon (2017) have documented that certain persons possess characteristics that impair their ability to withstand adversity. These ideas are rooted in vulnerability theory and can be linked to the third concept.

The third concept recognises that elements of identity influence the lives and lived experiences of persons (Jenkins, 2014). Often, elements of identity such as age, gender, ethnicity, religion or disability are seen as means for grouping similar persons (Jenkins, 2014). The groups are used as the basis for delineating roles and responsibilities (Jenkins, 2014). The differences between groups can also be used to define power allocations in society which create pockets of inequality. These inequalities can limit decision making or access to resources, which in turn can inhibit people's ability to protect themselves (Wisner & Luce, 1993, Cutter, 2003, Cannon, 2017). The disparity across groups contributes to the unequal distribution of negative effects in the context of hazard impact. As a result, GASBI accepts the need to integrate considerations regarding elements of identity and their effects on the daily lives of persons within a specific social context and how these must be analysed in order to effectively reduce risk.

The fourth concept shows that traditional "a priori" views of determinants of the vulnerability, which looks at independent elements of identity as contributors to vulnerability such as gender or age, is regarded as insufficient in explaining risk fully in complex scenarios such as Southern Africa (Carr *et al.,* 2015:1). The complexity of the vulnerability requires that unique approaches be taken to remediate the risk. Traditional 'one size fits all' approaches derived from westernised viewpoints fail to take this complexity into consideration. The combination of multiple elements of identity, and the manner in which they influence life, can significantly increase the vulnerability of a focal group. As a result, the concept of intersectionality is presented as a means of exploring these dimensions.

Studies have indicated that gender and age are the most commonly recognised elements used to justify the differential impact of disasters on populations (Cutter *et al.,* 2003; Neumayer & Plumper, 2007; Dwyer *et al.,* 2004; Fordham, 2012, Bradshaw & Fordham 2013). The intersection of age and

gender therefore serves as the core of the GASBI Model. The intervention focuses on the combined vulnerability of these doubly affected groups, which are so often overlooked in broad risk reduction activities (Carr *et al.,* 2015).

Additionally, the GASBI Model borrows from the Social Practice theory based on its ability to acknowledge additional variables such as moral norms, beliefs, cultural context, past behaviours and self-identity as influences on behaviour (Conner & Armitage, 1998; Hargreaves, 2011). It presents that identity is shaped by social factors and influences behaviour which is embodied in social practices. The highlight of this model is linked to its recognition that individuals do not live in social vacuums but in reality, their circumstances and local context can override all cognitive factors (Hargreaves, 2011). The principal implication of a Theory of Practice is that the sources of behaviour change lie in the development of social practices themselves (Hargreaves, 2011). (Reckwitz, 2002:249) presents that:

> *A 'Practice*' is a routinized type of behaviour which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge

Hence, Social Practice theory seeks to address criticisms presented toward individualistic behavioural theories, particularly involving their failure to take into consideration the ways in which social relations, material infrastructure and context are intrinsic to the performance of social practices and are not merely variables within the individual decision making process (Hargreaves, 2011). Social Practice theory involves seeking the active engagement of community interest by focusing on skills, knowledge, and understanding of people in their family, community, and social lives (Berger & Luckmann, 1991; Warde, 2005; Hargreaves, 2011). The underpinning aspiration of the theory lies in its desire to encourage the collaborative efforts of the individual to work towards the achievement of a goal that brings forth community change or transformation (Berger & Luckmann, 1991; Warde, 2005).

Hence, the efforts to promote positive vulnerability reduction activities and actions are not and cannot be solely influenced by direct efforts to change individual attitudes, values and beliefs but are often constrained by contextual factors embedded within social practices (Warde, 2005; Hargreaves, 2011). The GASBI Model supports efforts to reduce vulnerability and risk through the understanding

of practices that reinforce this susceptibility while drawing ideas regarding possible remedies through this knowledge. The recognition of the role society plays in influencing vulnerability, through enforcing and engaging social practices which support discrimination and exclusion only serves to comprehend the deeper layers of susceptibility of certain populations. However, this knowledge can also serve as a starting point for developing remedial actions for behaviour change at individual and community level. The GASBI Model serves as an approach for addressing the need for situational and intersectional framing of identity at the core of DRR in the face of the unique nature of risk present in Southern Africa.

The study endeavours to present the Girls in Risk Reduction Leadership (GIRRL) Programme as an application of the GASBI Model in praxis in context of Southern Africa and examining its contributions to guiding more effective DRR policy and praxis.

1.3 The GIRRL Programme

In light of the realities affecting adolescent girls from developing countries in the context of disaster risk, the study presents the GIRRL Programme as the basis of investigation. The programme was originally designed as a local project and implemented in the Ikageng Township (Potchefstroom, North-West), South Africa in 2007-8 with funding awarded to the researcher through the Prevention Consortium (Forbes-Biggs, 2008a). The project received mentorship from the African Centre for Disaster Studies (ACDS) at North-West University (NWU) for the initial one year implementation phase. The GIRRL Project sought to address the issue of risk reduction by examining and minimising the social vulnerability of adolescent girls through its focus on gender and age specific capacity building activities (Forbes-Biggs, 2008; Forbes-Biggs & Maartens, 2012). In the context of South Africa, the future of adolescent girls living in informal settlements is undermined by physical and sexual violence, poverty, alcohol, drugs, prostitution, teenage pregnancy, social pressures and diseases such as HIV/AIDS, sexually transmitted infections and tuberculosis (Forbes-Biggs & Maartens, 2012). This increases the susceptibility of this group even before considering the exposure to and threat from natural hazards.

In the context of the project site in Ikageng it was identified that;

> Social conditions often contribute to girls ultimately trading their self-worth in exchange for a sense of belonging, financial support and the potential to remove themselves from their circumstances. As a result, participants are exposed to teenage pregnancy, sexually transmitted diseases such as HIV/AIDS, thus forcing them to make adult decisions before

> they are emotionally mature. These factors contribute to the many participants being ostracised by their peers and their community; this was especially true if girls were HIV positive or pregnant (Forbes-Biggs & Maartens, 2012:235).

The project was aimed at helping the participants understanding the links between health, welfare and individual vulnerability through the reaffirmation of rights and building resilience of girls through education and information provision and incorporating active participation (Forbes-Biggs & Maartens, 2012). Capacity building was effected by the provision of critical training and information in areas such as personal (mental and physical) health, self-defence, peer education, decision-making, first-aid, fire safety, community-based disaster risk assessment and effective communication. Each session was carefully adapted to the specific community context through the extensive collaboration and contributions gathered from the experiences of project leaders, stakeholders and key persons from within the community as well as from the girl participants themselves (United Nations International Strategy for Disaster Reduction Secretariat, 2008; Forbes-Biggs & Maartens, 2012). The original project identified objectives based on recommendations, conclusions and theories derived from disaster risk reduction including (Forbes-Biggs, 2008):

- To support human capacity development through information and training in critical areas, to enhance the survival skills of vulnerable residents from the local township;
- To provide this specific information and training to 20 adolescent girls (aged 13-18 years), as a means of building individuals and by extension, community capacity;
- To engage adolescent girls in both pro-active and reactive activities for reducing risk and social vulnerability;
- To encourage the girls to adopt a leadership position and act as positive, young role models for their community (as well as for in their work with local disaster risk reduction initiatives);
- To help establish a culture of community 'safety and awareness', through the creation of empowered, skilled and informed community resource persons;
- To foster a greater appreciation of the positive contributions of communities in vulnerability reduction and disaster risk reduction activities;
- To develop positive relationships between local disasters coordinating entities, community stakeholders and empowered youth to help develop effective local community-based disaster plans.

The project acknowledged the importance of incorporating gender into efforts to reduce social vulnerability and thus reduce risk. It sought to build positive relationships between local government,

private interests, community participants, academia, disaster management representative and a group of girls who are often ignored in the decision-making process.

In 2008, the GIRRL Project was recognised by the United Nations for its contributions to the integration of disaster risk reduction into climate change adaptation initiatives to reduce people's vulnerabilities to the impact of climate change and weather-related disasters, paying particular attention to women's needs and priorities (United Nations International Strategy for Disaster Reduction Secretariat, 2008). Following the original GIRRL Project, additional support was received from the Dr. Kenneth Kaunda District Municipality Disaster Management Centre (KKDM-DMC) in the North-West Province towards implementing three additional projects in Tswelelang (2009), Tching (2009) and Kanana (2011) townships based on each sites' designation as a vulnerable area (Van Riet *et al.,* 2009; Van Riet *et al.,* 2011; Forbes-Biggs & Maartens, 2012; Van Riet *et al.,*2013). It was at the initiation of the additional sites that the 'GIRRL Project' title was modified to the 'GIRRL Programme' in order to reflect the implementation of the project across multiple sites and the commitment of the ACDS to make the programme a permanent fixture within their portfolio.

In 2012, The Cooperative for Assistance and Relief Everywhere (CARE) United States of America (USA) and the North-West University (NWU), through the ACDS, partnered for the implementation of a regional learning and pilot activity in Southern Africa based on the GIRRL Programme Model. CARE and the ACDS provided technical assistance to existing CARE country programmes and partners in Zambia, Zimbabwe, Malawi and Lesotho which hosted the programme's implementation. Each country implemented an initial pilot of the GIRRL Model adapted to their local context. The study engaged the implementation of the GIRRL Programme across multiple sites and five countries as its basis for the investigation.

DRR policy and praxis in the Southern African region has not reached a stage where it is ready to recognise and prioritise the needs and contributions of distinctly vulnerable sub-groups such as adolescent girls. Traditionally, DRR policy had referred broadly to vulnerable people or communities and their need for protection, however, the specific acknowledgement of vulnerable groups; especially those disadvantaged by multiple elements of identity such as adolescent girls; are overlooked in both policy and practice. This study sought to recognise the importance of understanding the situational context as the basis of defining social conditions and the intersectionality of multiple elements of identity as a requisite for framing the unique risk profile of

Southern Africa. The resulting GASBI Model was derived from the recognition of these specific needs. The study presents the GIRRL Programme as an application of the GASBI Model and aims to justify its contribution towards more effective DRR policy and praxis in Southern Africa.

1.4 Research Questions

The focus of the inquiry has roots in the application of situational analysis and intersectionality in disaster risk reduction in the Southern Africa region and examination of the GIRRL Programme as an application of GASBI in praxis.

In order to address the hypothesis, the following questions needed to be answered through the investigative process:

1. What is the nature of disaster risk in the Southern African region, with emphasis on five case study countries of Zambia, Zimbabwe, Malawi, South Africa, and Lesotho?
2. What is the current status of DRR policy and praxis in the five case study countries in the Southern African region?
3. What are the theoretical underpinnings for the GASBI Model?
4. What is the nature and orientation of the GIRRL Programme?
5. What means of evaluation can be used to determine if the GIRRL Programme can be classified as a GASBI?
6. What criteria can be used to evaluate the contributions of the GIRRL Programme to the disaster risk reduction policy and praxis in the region?
7. How can GASBI be integrated as a new protocol for DRR policy and praxis in Southern Africa?

1.5 Research Objectives

Efforts to test the hypothesis presented in this study required that a number of objectives be achieved. The objectives demarcated for this study included;

1. To describe the nature of disaster risk in the Southern African region with emphasis on the five case study countries of Zambia, Zimbabwe, Malawi, South Africa, and Lesotho.

2. To assess the current status of DRR policy and praxis in the five case studies countries in the Southern African region.

3. To establish the theoretical underpinnings for the GASBI Model.

4. To clarify the nature and orientation of the GIRRL Programme.

5. To identify a means to evaluate and determine if the GIRRL Programme can be classified as a GASBI.

6. To evaluate the contributions of the GIRRL Programme towards the disaster risk reduction policy and praxis in the region.

7. To decipher how to integrate the GASBI as a new protocol for DRR policy and praxis in Southern Africa.

1.6 Central Theoretical Statements

This section presents the central theoretical statements that served to ground the study and support its legitimacy. The initial theoretical statement reflects the foundation that disasters are social functions inherently influenced by social forces and processes (Renn, 1992; Dombrowsky, 1995; Perry, 2007; Cannon 2017). The second theoretical statement acknowledges that certain characteristics contribute to the uneven distribution of risk and impact across populations (Cutter, 1993; Shier, 2001;Blaikie *et al.,* 2003; Bradshaw, 2004; Füssel, 2007, Neumayer & Plumper 2007). In particular, characteristics related to social vulnerability play a role in explaining this differentiated impact (Cutter, 2003; Cutter & Finch 2008; Cutter *et al.,* 2009). The third theory presents elements of identity which shape the lived experiences of persons and hence shape susceptibility of persons (Jenkins, 2014). The fourth posits that an analysis based on the 'a priori' determinants of vulnerability is insufficient in explaining complex risk (Carr *et al.,* 2015).

Disasters are social functions, taking place and influenced by social forces (Renn, 1992; Perry, 2007, Cannon, 2017). This sentiment is presented and reaffirmed by various sociologists who draw conclusions between disaster risk as a function of vulnerability, hazard exposure, capacity and the

inherent importance of social structures, actors and conditions in influencing human vulnerability (Dombrowsky, 1995; Mileti, 1999; Perry, 2007; Corendea *et al.*, 2012). This premise infers that the acknowledgement of social structures, actors and conditions needs to be involved in effective efforts to reduce risk.

Disaster risk and disaster impact are not distributed evenly across populations. Similarly linked to the previous concept, various characteristics enable disaster impact to create differing outcomes on communities and populations (Bradshaw, 2004, Cannon, 2017). Again, it is vulnerability as a concept which explains why some groups may be more harshly affected than others (Paton & Johnston, 2001; Blaikie *et al.,* 2003; Neumayer & Plumper, 2007;). Vulnerability has multiple definitions depending on its context, however, for the purposes of this study, it shall be based on Cutter's (1993) perspective referring to ''the likelihood that an individual or group will be exposed to and adversely affected by a hazard". Specifically, the presentation of 'social vulnerability' theory seeks to acknowledge that the dynamics which exist among social constructs enable the formation of inequalities, based on differing characteristics *(*Cutter *et al.,2003).* These inequalities shape the susceptibility of certain groups to harm and limit their ability to respond (Cutter*et al.,* 2003; Blaikie *et al.,* 2003; Bankoff*et al.,* 2004; Dwyer *et al*., 2011). This approach reinforces the notion that disaster risk is not spread uniform across society, but rather, risk is varied and particularly reflective of social manifests (Renn, 1992; Bolin *et al.,* 1998; Enarson & Morrow, 1998 Blaikie *et al.,* 2003; Enarson, 2007; Enarson & Fordham, 2010). According to Corendea *et al.*, (2012:12 citing Ballesteros, 2008), "social vulnerability is created through the interaction of social forces and multiple stressors, and resolved through social (as opposed to individual) means". This framework is significant to the study as it also gives credence to the possible remedies and remediation.

Elements of identity shape the lived experiences of persons. The value of identity is rooted as a form of classification within a social context. It joins similar persons but also excludes others based on their perceived differences (Jenkins, 2014). It is a means of defining and assigning a person's social positioning. Identity is used in allocating social power or access and this influences how certain groups are viewed and how they live. The lived experience, in terms of power and access, can define one's susceptibility to adversity. Understanding these dimensions is critical for reducing risk.

An analysis of 'a priori' determinants of vulnerability is insufficient in explaining complex risk. This suggests that using a mono-focused lens to justify factors contributing to vulnerability such as gender or age or race; fails to adequately examine the roots of risk in complex situations (Carr *et al.*, 2015).Thompson-Hall et al (2016: S375) have presented that "*a priori* assumptions about what different identities mean in a given place, and what vulnerabilities those identities produce in particular places" are still the basis of data collection such as Winowiekie *et al*. 2014 and Patt *et al.* (2009). Additional research by Pyles and Lewis, (2010) offered the need for intersectionality as a means for understanding gender and disaster through its attention to race, class and gender in the context of examining the devastation of Hurricane Katrina. Dunn (2016:214) looks at the value of intersectional study in analysing power, processes and other inequalities, as well as understanding vulnerabilities and experiences of climate change." There is a need for an in-depth multi-dimensional analysis in order to identify vulnerability within in Southern Africa. The unique nature of risk in Southern Africa is derived from the presence of multiple conditions, including underdevelopment and poverty, vulnerable livelihoods, uneven population growth, and the HIV/AIDS epidemic, all of which undermine the ability of certain population groups to withstand adversity, hence increasing their vulnerability and overall risk. The realisation that the effects of these conditions are exacerbated along gender and age lines further complicates the dynamics of risk in the region.

1.7 Methodology

This study endeavoured to utilise a number of procedures to gather data in order to address the research questions and fulfil research objectives. The methodology section of the study details the literature foundation of the study and documents the empirical investigation, which explores the GASBI Model employing the GIRRL Programme within five different case study contexts.

This section details: the databases consulted, the research design, the classification of the research, the use of qualitative research methodologies, founding epistemologies, instrumentation and sampling procedures. Other topics focus on explicating reliability, validity, data analysis, delimitations/limitations and critical ethical considerations of the investigation.

1.7.1 Literature Review

The literature review was developed with multiple objectives in mind. In the first instance, it sought to provide a reflection of the theoretical underpinnings that were necessary to frame the GASBI Model and how GASBI was defined and evaluated. It served as the basis for the situation analysis which presented a review of conditions which shaped the formation of risk within Southern Africa. The literature review assessed and determined the current status of DRR policy and praxis across the region. This material endeavoured to fulfil some of the objectives of the study.

1.7.1.1 Databases Consulted

The following databases were consulted in order to ascertain the availability and quality of materials necessary for the instigation of this research.

- Catalogue of theses and dissertations of South African Universities (to confirm originality of the title and to identify dissertations based on similar themes and theories);
- Catalogue of books at Ferdinand Postma Library (North-West University, Potchefstroom) (For resources in book form);
- Google Scholar (an international bibliographical database including full-text journal articles [mainly peer-reviewed], technical reports, books and theses);
- ProQuest for access to international theses;
- SpringerLink, Social Science Research Network (SSRN), Science Direct, Journal Storage (JSTOR) and Ingenta Connect for full-text peer reviewed journal articles and technical reports.

1.7.2 Empirical Investigation

The study sought to empirically gather the knowledge necessary to fulfil the aims and objectives of the study. The study sought to understand the importance of the situational context as the basis for defining the social conditions and intersectionality of multiple elements of identity as a requisite for framing the unique risk profile of Southern Africa. The empirical study presented the GASBI Model espoused in the GIRRL Programme as the basis for contributing to more effective DRR policy and praxis in the region.

1.7.2.1 Research Design

The research design for the study provided a detailed, logical plan of how the researcher moved from the determination of questions to the formulation of solid conclusions (Rowley, 2002; Bryman, 2012). The design plan further established the goals and nature of the study, the methods of data collection, instrumentation, validity, reliability, analysis, limitation and ethics. Based on the nature of the research being initiated, the design prioritised the utilisation of the multiple case study approach (Yin, 2014).

According to Vaughan, case studies assist researchers in connecting the actions of individuals at the micro level to structures and processes existing within society at the macro level (Vaughan, 1992). This approach enabled the researcher to gather data from the viewpoint of multiple participants, hence creating a multi-dimensional perspective for analysis (Baxter & Jack, 2008). Case study methodology enabled the examination of phenomena in detail, which in this instance, is the multi-case implementation of the GIRRL Programme as a potential GASBI.

These cases focused on the GIRRL Programme's implementation in the following communities:

- Ikageng (South Africa)
- Tching (South Africa)
- Tswelelang (South Africa)
- Kanana (South Africa)
- Tshidixwa (Zimbabwe)
- Kanyama (Ward 10) (Zambia)
- Kanyama (Ward 11) (Zambia)
- Gwazanyoni/Kalulu/Malisero/Mazanani (Malawi)
- Chidawa/Losiyati/Malinda/Moya/Mtandaza (Malawi)
- Mphaki (Lesotho)

Although each site intervention was being presented as an individual case, the interventions will be detailed and evaluated based on a number of targeted criteria. The criteria was determined based on guidance from the works of Stouffer (1941) who suggested information gathering in areas such

as the nature of the case; the case's historical background; the physical setting; other social contexts; and the informants through whom the case can be known (Denzin & Lincoln, 2000; Yin, 2014). These criteria were documented as units of analysis within the study. As a result of foundational work by Stouffer (1941), the following units of analysis/variables were been identified:

- **Nature of the Case**: Project Leadership and Vision, Project Attendance, Group Cohesion, Leadership, Sessions, Ice Breakers, Refreshments, Community Engagement, Project Ownership and Implementing Organisation.
- **Historical Background**: Original Project Leadership and Vision
- **Physical Setting**: Geographic Location
- **Context**: DRR policy and praxis in each country context
- **Informants**: Participants, Stakeholders, Facilitators, School Officials, Parents, Participant Criteria, Participant Characteristics Interpersonal Relationships, Participants' Risk Perception, Collective Participant Image, Participants' Perception of Critical Persons.

1.7.2.2 The Classification of Research

Research can be classified in concurrence with its aims, design and its intended outcomes. The aim of the study was to understand the value of the situational context and the need to use an intersectional analysis of multiple elements of identity as the basis for addressing the dimensions of risk in Southern Africa. It sought to explore how the proposed GASBI Model, espoused in the GIRRL Programme, could contribute to more effective DRR policy and praxis in the region. The nature of the questions that were required for this study sought to address the primary questions such as 'why', 'how' and 'when' the phenomena occurs (Bless *et al.,*2006).

Exploratory research, especially within the framework of the case study, has been considered to be limiting in terms of both scope and applicability to the general population (Creswell, 2013). However, it should be noted that despite this critique, the outputs of this type of exploratory research are not always directly linked to decision-making but they also provide important insight into a particular scenario (Creswell, 2013). These drawbacks are balanced against the desire to examine this very specific GASBI Model and the GIRRL Programme phenomenon as its application, within the context of Southern Africa's DRR policy and praxis environment.

1.7.2.3 Qualitative Research Methodology

The research questions in the instance of this inquiry were investigated through the use of qualitative means. According to Denzin and Lincoln (2000) and Bryman (2012), qualitative methods answer questions by providing a description of people's lived experiences, events, or situations with social and historical contexts and experiences, and the significance of emotional content in an attempt to open up the world of whoever or whatever is being studied (Baxter and Jack, 2008). The most common sources of qualitative data include interviews, observations, archival data and documents, which are discussed in detail in the 1.7.2.*5. Instrumentation Section* (Cavaye, 2007; Baxter & Jack,2008; Quinn Patton, 2011).

1.7.2.4 Epistemology

The study adopts an epistemological perspective that highlights the use of the social constructivism approach (Cavaye, 2007). Social constructionism is commonly referred to as 'constructivism' and falls within the broader philosophical perspective of interpretivism (Baxter & Jack, 2008). Interpretivism "honours the understanding of a whole phenomenon via the perspective of those who actually live it and make sense of it (construct its meaning and interpret it personally)" (Newton Suter, 2011:344).

In this instance the study takes the viewpoint that disaster risk is a socially constructed phenomenon rather than a physical entity, which was first presented by Otway and Thomas (Bradbury, 1989; Otway &Winterfeldt, 1982). As a result, the study is suggesting a new Model which takes into consideration the social conditions present in Southern Africa, including dimensions of vulnerability and the intersection of multiple elements of social identity, particularly gender and age, as the basis for guiding DRR policy and praxis.

1.7.2.5 Instrumentation Data Collection Techniques/Method

Instrumentation within the context of research refers to the means or tools used for collecting data or evidence (Bryman, 2012). Instruments were selected based on the nature of the research and in order to support its design (Creswell, 2013). As previously mentioned, the research was guided by

the multiple case study design utilising qualitative research methods (Cavaye, 2007; Baxter & Jack,2008).

In order to support the study, Yin (2013) identified at least six sources available for gathering evidence within the framework of the case study approach. Yin (2013) presents these six primary sources of evidence as: documents, archival records, interviews, direct observation, participant-observation and physical artefacts. For the purposes of the study, however, evidence was be gathered from the inclusion of documentation and interviews with key informants and focus groups (Yin, 2013).

1.7.2.5.1 Documentation

The use of documents for review served as a foundation for gaining relevant data that can be utilised to inform the interview questions (Creswell, 2012). It was also central to leading the direction toward establishing central themes, concepts and trends. The data gathered from documents can be significant for balancing viewpoints and biases existent in interview data (Bryman, 2012). These documents include general and quarterly project reports and internal communications.

1.7.2.5.2 Key Informant Interviews

Interviews are one of the most important sources of case study evidence (Yin, 1994). Generally, interviews can take one of several forms including open-ended, focused, or structured (Berg, 2004; Baxter & Jack,2008). For the purposes of this study, the researcher employed open-ended interviews of multiple key informants to gather personal feelings and opinions regarding the GIRRL Programme.

Key informants were selected from the sum total of population of persons involved in or benefiting from the GIRRL Programme. The selection process was influenced by the informants' ability to provide information, ideas and insights on the GIRRL Programme itself (Kumar, 1989). As such, the informants were drawn from GIRRL Programme leaders, project management, stakeholders, school officials, community members and facilitators. The number of interviews was in the range dictated by Kumar (1989) of approximately 15-35 persons sourced from across the five case study countries.

The questions were used to gather descriptive information regarding facets of the GIRRL Programme as well as for understanding motivations and attitudes. The role of the informants in respect to the project guided the topics and issues covered during the interviews as discussed in *1.7.2.1 Research Design* as units of analysis/variables.

1.7.2.5.3 Focus Group Discussions

Focus group discussions were selected to protect the interests of the minors who were participating in the programme. It was determined that the process of interviewing could have had negative implications on the participants through creating feelings of undue stress or pressure to respond (Creswell, 2013). Focus groups were used to provide the safety of a group setting which allowed the participants to engage in the discussions (Carey & Asbury, 2016). The group setting served as a measure to also ensure that the minors were not in situations where they would have been alone with adult researchers. Focus groups were also held with the parents of the participants. Six focus groups were held for the participants in South Africa, five focus groups were held in Zambia (three with girls and two with boys), Malawi had two focus groups per site and Zimbabwe and Lesotho had two focus groups each. The focus groups involved a maximum of ten persons and to accommodate the limitations of time and venue for meeting with the participants. Each focus group was led by a trained facilitator and was conducted in a local language to ensure that the questions were understood and that the participants were comfortable in the conversation.

1.7.2.6 Sampling

Within the context of the case study, the process of sampling differs significantly from that of statistical sampling approaches. The logic in case studies involves theoretical sampling, in which the goal is to choose cases that are likely to replicate or extend the emergent theory or to fill theoretical categories and provide examples for polar types (Bryman, 2012).The cases selected for this research investigation were selected purposefully in order to provide rich details about the gender and age considerations and the GIRRL Programme phenomena.

The study focuses on intrinsic casework as a case study methodology (Yin, 2013). This focus was reflected in the pre-selection of the cases in accordance with the nature of the research questions (Curtis *et al.,*2000, Creswell 2013). Purposive or theoretical sampling criteria was utilised for drawing

samples based on the theoretical framework which has guided the research questions (Bryman, 2013). Purposive (or judgemental) sampling was applied in two instances in the context of the study. The first level of purposive sampling was applied to the selection of cases in the study. The second level of judgement sampling was used to identify interviewees within the selected cases.

The samples were small (five countries with 10 sites) and hence were studied in depth in order to gather significant amount of data. The case studies were identified from the Southern African countries, which have been the hosts of the project including South Africa (SA), Zimbabwe (ZIM), Zambia (ZAM), Malawi (MAL) and Lesotho (LES) (Forbes-Biggs & Maartens, 2012). There have been five countries that have hosted the project and within those countries' ten local project sites were identified in the specific cases. The specific community project sites were identified based on implementation, including the original GIRRL Programme in Ikageng (SA), GIRRL Programme implemented in the Tching (SA), Tswelelang (SA) and Kanana (SA) townships, Tshidixwa (Zimbabwe), Kanyama- Ward 10 (ZAM), Kanyama- Ward 11 (ZAM), Gwazanyoni/Kalulu/Malisero/Mazanani (MAL), Chidawa/Losiyati/Malinda/Moya/Mtandaza (MAL) and Mphaki (LES).

1.8 Trustworthiness and Authenticity

The ideas of reliability and validity were two criteria used to determine the rigour, however, neither of these concepts were directly applicable to qualitative research. As a result, qualitative research was viewed as being deficient in academic rigour. It was unfair to assume that both qualitative and quantitative research could be so different in focus, yet been measured with the same tools. In response, Bryman (2012, 390-393) suggested that trustworthiness and authenticity are parallels for reliability and validity within the context of qualitative research. Within the classification of trustworthiness, the elements of credibility, dependability, confirmability and transferability were provided as approaches to ensure rigour (Houghton et al 2013, 13). Credibility in this study was facilitated through the triangulation of data by firstly ensuring the use of various methods for collecting data (Casey & Murphy, 2009). This provided an opportunity for the researcher to view various perspectives and dimensions of the phenomena under investigation. The second use of triangulation in this study is rooted in the selection of multiple theories to create a holistic viewpoint of the complex issue under consideration.

Disasters are social functions, taking place and influenced by social forces (Perry, 2007; Renn, 1992; Dombrowsky, 1995; Mileti, 1999, Cannon, 2017);

Disaster risk and disaster impact are not distribute evenly across populations (Blaikie *et al.,* 2003; Cutter*et al.*, 2003; Bradshaw, 2004; Bankoff*et al*., 2004; Füssel 2007; Neumayer & Plumper 2007; Cutter & Finch, 2008; Cutter *et al*. 2009);

Elements of identity shape the lived experiences of persons(Jenkins, 2014).

An analysis of 'a priori' determinants of vulnerability is insufficient in explaining complex risk (Carr *et al.,* 2015 supported by Valentine, 2007; Taefi, 2009; Babouri, 2014).

Dependability and confirmability were achieved through the specific aspects of the research that sought to create a documented procedure for easy replication and to provide a clear explanation of the processes and decision making involved. Transferability was the least relevant as the use of the case study approach is inherently limited by its extreme specifications to the case of study. Hence attempts to transfer the findings or to generalise the results would prove difficult.

1.9 Data Analysis

The processes used for analysis have been guided by the works of Yin (2013) and include *Within-Case Analysis* and *Cross-Case Analysis*. In the first instance, *Within-Case Analysis* was instigated through the application of "distinguished note taking based on the narratives" compiled from data gathered from the research tools, including documentation, archival records, interviews and direct observation (Bryman,2012:28;Yin, 2013). The analysis was guided by the themes, patterns and concepts that were linked to the units of analysis previously identified *(Section 1.7.2.1 Research Design)*(Quinn Patton, 2011). A further focus of the analysis was in accordance with the use of case study methods on forming and developing explanations for the GIRRL Programme as a phenomenon.

The *Cross-Case Analysis* is similar in approach to the *Within Case Analysi*s in terms of utilising note taking and seeking to develop explanations. However, this method of analysis extends beyond the single case focus to look at multiple cases in order to help draw lessons from each case so as to build generalised theories (Gibbert *et al.,* 2008;Yin, 2013;).

Qualitative data analysis continued until it eventually reached the point of 'saturation' which often signals the completion of the study (Quinn Patton, 2011). This point is signified by the judgment of

diminishing returns and little need for more sampling (Quinn Patton, 2011). This was the point where new data and their sorting only confirmed the categories (often numbering between three and six or so), themes, and conclusions already reached in the analysis.

1.10 Limitations and Delimitations

The limitations of the study were primarily linked to the research design and the use of the case study approach. The study only focused on the GIRRL Programme as a case study, which had been, implemented in a finite number of situations. Inherently, case studies are said to be limited in their ability to draw generalised statistical conclusions based on the findings (Johansson, 2003, Yin 2013). Instead, case studies rely on analytical-based generalisations. The reliance on qualitative data gathering could also be criticised for its limitations that are linked to a presumed lack of reliability and the validity of its findings, however, attempts have been made in this study to minimise the boundaries associated with case study criticism by enhancing the rigour of the study.

Data collection was dependent on the ability of the organisations in each country to formally implement the GIRRL Programme in its entirety. Issues surrounding the ability to gather data and complete the study such as budget constraints, contract limitations, personnel availability, funding access and access to participants, were the primary concerns regarding the study. The researcher's personal involvement in implementing the GIRRL Programme may have influenced the objectivity of reporting, however, the use of methods to enhance study rigour was instigated to minimise bias.

1.11 Ethical Considerations

In particular, this study aimed to do no harm, avoid deception, ensure privacy maintain the confidentiality of data and seek full consent in accordance with standard ethical principles (Duv & Raworth,2012). In this instance, ethical guidelines and protocols defined by the NWU were strictly adhered to and abided by. The research proposal documenting the study was submitted to the NWU Ethics Committee for judgement prior to instigating the collection of data and was issued approval under number NWU-00113-13-S7.

All participants were asked to participate in the study and were provided with a consent form (*See Appendix 7.1 Consent Form – Integrating Adolescent Girls into Community Based Disaster Risk Reduction in Southern Africa Project*) detailing the goals of the research, the implications, how that data will be stored and the fact that participants will not be referred to by name in order to maintain confidentiality. An important clause notifying the participants of their right to withdraw at any point was also included.

Of special note, shall be the handling of sensitive research subjects. In this study, the primary focus of the project was vulnerable adolescent girls. As such it was imperative that their input be sought to form the study. This situation was handled in accordance with the ethical guidelines presented by NWU. Emphasis was placed on the use of strict procedures involving the issuing of consent forms and the formal submission of questions to the Ethics Committee for approval.

The general participation of adolescent girls in the project required the use of a blanket consent document issued by the implementing organisations (CARE Country Offices) and NWU prior to their participation (Upadhyay, 2006). This consent form was presented to girl participants and their parents in a forum hosted by the local partner schools and members from the implementing organisation. It was translated into local languages where necessary and its submission was a requisite for participation in the project/research and signed by both the minors and their parents/guardian. However, this document was complemented by the provision of an initial study consent form specifically detailing the research related aspects of the project, highlighting once again the rights of the parents/guardian and participants to exit the study, their right to privacy and confidentiality and the general expectation of the study to do no harm (Upadhyay, 2006).

1.12 Significance of the Study

The study sought to present a radical new protocol, the GASBI, for dealing with issues surrounding the complexity of vulnerability, which were not adequately addressed but necessary for the effective disaster risk reduction policy and praxis in the Southern African context. The GASBI endeavoured to link theory regarding risk, vulnerability (social) and social practice theory to the practical application of a unique gender age intervention targeting the specific needs of vulnerable groups by understanding the how social identity, in a particular social context, influenced their lived experiences and disaster risk. The social practices which they engaged were used to appreciate the dynamics of

vulnerability and served as the basis for developing strategic interventions aimed at reducing risk. The study builds on the achievements of the GIRRL Programme which has been recognised internationally for its contributions to youth and gender empowerment in disaster risk reduction (United Nations International Strategy for Disaster Reduction Secretariat, 2008; Swarup *et al.,* 2011; McCall *et al.,* 2011; Forbes-Biggs & Maartens, 2012).

1.13 Structure of the Research Thesis

The research thesis comprises of the following sections:

Section A: Orientation of the study

This section provides an overview of the research study. It presented the orientation of study and demarcates the breakdown of the research problem, key questions and objectives as well as the methodological outline. A background detailing previous research and work around the topic as well as the underlying theories framing the study was documented. The final component presented the contributions of the study to the broader body of disaster risk reduction knowledge.

Section B: Comprises of a collection of four (4) articles pertaining to the study

> Article 1: *The Gender Age Socio-Behavioural Intervention (GASBI) as a Response to Disaster Risk Reduction in the Southern Africa Region.*
>
> Article 2: *A New Protocol in Disaster Risk Reduction Policy and Praxis for the Southern Africa Region: Gender Age Socio-Behavioural Intervention and the GIRRL Programme Model (Published – October 2014)*
>
> Article 3: *Participatory Action Research (PAR) techniques applied to the Case Study of the GIRRL Programme in Ikageng, South Africa* (Submitted November 2016)
>
> Article 4: *The GIRRL Programme – A Human Rights Based Approach to Disaster Risk Reduction in The Southern Africa Region (Submitted December 2016, Published April 2017)*

Section C: Summary, Conclusions and Recommendations

Section D: Consolidated List of References

Section E: Appendices

SECTION B: COMPRISES OF A COLLECTION OF FOUR ARTICLES PERTAINING TO THE STUDY

2.1 Article 1: The Gender Age Socio-Behavioural Intervention (GASBI) as a Response to Disaster Risk Reduction in the Southern Africa Region

This article has not yet been submitted for consideration in an academic publication.

2.2 Abstract

Southern Africa presents a set of conditions which contribute to the unique nature of risk in the region. This uniqueness creates complications for efforts directed at reducing disaster risk as traditional activities fail to appreciate the complexities involved. The paper uses a situational analysis of the dynamics within the region as the basis for a critical review and assessment of the current nature of risk. The conditions arising are explained in terms of how they add to the risk and specifically influence the vulnerability of the population. The analysis draws on a collection of theories from disaster risk and vulnerability studies extending to social practices and identity as the basis for understanding risk in Southern Africa. The findings present the introduction of the Gender Age Socio-Behavioural Intervention (GASBI) Model as a derivative approach for specifically addressing the need for a situational and intersectional framing of identity as the foundation for understanding and prioritising disaster risk reduction (DRR) in the context of Southern Africa.

2.3 Keywords

Southern Africa; Intersectional; Situational Analysis; Gender Age Socio-Behavioural Intervention Model; Disaster Risk, Vulnerability

2.4 Introduction and Overview of Problem

Disasters have been steadily increasing in frequency and intensity over the past years with a growing threat to people and property (United Nations Office for Disaster Reduction, 2015). The international community has recognised this threat and sought to promote the pro-active reduction of risk to negate this. Disaster risk reduction (DRR) as a concept was defined as the:

> ..(C)oncept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disaster, including through reduced exposure to hazards,

> lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (United Nations International Strategy for Disaster Reduction Secretariat, 2009: 10-11).

Shaped by the priorities set out by the Hyogo Framework for Action (HFA), contemporary risk reduction programmes focused on three focal areas which include prevention, mitigation and preparedness (United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction,2005). In particular, the HFA presented a series of the priorities aimed at guiding policy and praxis to reach these goals. One of these priorities acknowledged the need to reduce underlying risk. Unfortunately, it seems that many activities have scratched the surface and have failed to take into account the intricacies that contribute to the formation of risk (United Nations International Strategy for Disaster Reduction Secretariat, 2014). The failure to make progress in reducing the underlying causes of risk, warranted the ideal being carried over into the subsequent Sendai Framework for Disaster Risk Reduction (SFDRR) (2015-2030) (United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction,2005; United Nations Office for Disaster Risk Reduction, 2015). As the first priority, the SFDRR suggested that policy and practice for DRR should be based on understanding the underlying risk and causation of disasters (United Nations Office for Disaster Risk Reduction, 2015). This suggests that policy and practice for disaster risk reduction needs to actively target vulnerability, exposure and hazards (Alexander, 2012).

As comprehensive as these directives have been in trying to promote the importance of understanding the roots of disasters through a full analysis of risk, there have been shortcomings. Many approaches still continue to lack the depth and specificity to consider the underlying factors which compose risk and are often applied in a ‘one size fits all’ style which leaves many individuals and groups still exposed (Van Niekerk & Wisner, 2014:223)

In the context of Southern Africa, there has been a continuing struggle to fully achieve advancements in the area of disaster risk reduction (United Nations Economic Commission for Africa, 2015). The Southern African Development Community (SADC) recognises the limitations regarding weaknesses in institutional frameworks, underfunding and non-coordination, weak information and knowledge systems and the need to reduce underlying risk factors (Southern African Development Community, 2010). Of these factors, this article will target the need for reducing underlying risk as the central issue for the region with direct connection to disaster risk reduction as a concept, rather than administrative or financial limitations. It relates directly to the failure to truly understand and

target risk reduction based on an understanding of the dynamics of disaster causation whereas the other challenges identified are primarily linked to administrative or financial limitations. The need to focus on underlying factors was alluded to by the head of the Regional Office for Southern and Eastern Africa for the United Nations Office of the Coordination of Humanitarian Affairs (OCHA) who acknowledged that "countries in Southern Africa, and indeed the rest of the world, have for the past decade, been experiencing an unprecedented increase in the frequency, magnitude and impact of disasters, specifically drought, floods, and epidemics like cholera, all of which are exacerbated by Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS)"(Southern African Development Community, 2010:5). The challenge exists in the distinct risk profile of the area (Southern African Development Community, 2010). While Southern Africa faces the threat posed by exposure to climate change related hazards, the distinction in risk appears to be rooted in the diverse face of vulnerability among the population. Vulnerability, with regards to disasters, refers to the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard (Blaikie *et al.,* 2003:11). Holloway (2003:3) alludes to this issue by suggesting the complexity in implementing disaster risk reduction in Southern Africa can be attributed to the unique nature of vulnerability in the region.

A situational analysis of the Southern African context presents poverty and under-development, vulnerability livelihoods, uneven population growth patterns and the HIV/AIDS epidemic as unique elements within the Southern African context which influence the ability of the population to withstand adversity derived from hazards (ICSU Regional Office for Africa, 2017; Southern African Development Community, 2010). These factors that contribute to the diversity of the region and add to vulnerability must be understood in order to adequately target risk. The resultant unique risk profile warrants consideration in developing and implementing effective DRR strategies and interventions. The following sections will show how the situational and intersectional framing of identity (drawn from theories of disaster risk through understanding dimensions of social vulnerability) can be used to frame and direct intervention development for DRR in Southern Africa by seeking to address issues surrounding the nature of risk in this specific location. It will highlight the creation of the GASBI Model which expounds on these models, in order to present a launching point for creating a more refined site specific and targeted model for prioritising risk reduction in Southern Africa.

2.5 Theoretical Underpinnings and Conceptualisations

Models for understanding disaster causation mainly follow a linear perspective which views natural hazards as creating an influence on human systems and resulting in a degree of impact (Alexander, 2012; Coetzee & van Niekerk, 2016). Subsequently, models shifted in linearity, directional flow and weighting, resulting in an ideal that put more emphasis on 'human and social systems' as the focal point in understanding causation and impact, and less importance on the hazards itself. Hewitt's (1983) contribution of the 'Radical Critique' recognised the need for prioritisation of disaster vulnerability as opposed to hazard exposure in developing country contexts has helped to reinforce the importance of understanding factors beyond just the hazards that shape disaster impact.

Blaikie *et al.*(2003) acknowledged the interplay of hazard exposure and vulnerability as a determinant of risk (R= H x V) but suggested that the roots of vulnerability were entrenched in social based factors. "Chiefly among these factors are economic imbalances, disparities in power among social groups, knowledge dissemination and discrimination in welfare and social welfare."(Blaikie *et al.,* 2003:5). They explained that factors associated with identity such as race, class, gender and ethnicity all affect social susceptibility. Social groups (defined by common elements of identity) that are in lower economic positions are often at greater risk to natural hazards. Blaikie *et al.*(2003) argued that tools and resources for disaster prevention are often made available to the most vocal or active social groups which leave other groups unprotected and uninformed. Their ideal was presented in the Pressure and Release Model which viewed disasters as the result of a combination of dynamic pressures, unsafe conditions and root causes, as contributors to the progression of risk, in combination with natural hazard exposure (Blaikie *et al.,* 2003). It valued the concept of examining risk as a function of both hazards and vulnerability but prioritised the need to address and understand disasters by analysing in particular the progression of vulnerability and the prioritisation of social causation in disasters. It looked further into the importance of vulnerability from a social perspective wherein two themes were central. The first, recognised that disasters should be considered as 'social' rather than a 'natural' phenomena and must be treated accordingly (Renn, 1992; Dombrowsky, 1995; Mileti, 1999). Disasters are defined and determined based on the degree to which they affect human or social systems which inherently links to two concepts of disasters and social impact (United Nations International Strategy for Disaster Reduction Secretariat, 2009). This places critical importance on understanding the dimensions of these human or social systems and their structures in order to mitigate risk. The second theme, seeks to present that different groups experience disasters differently (Blaikie *et al.,* 2003; Bankoff*et al.,* 2004; Füssel, 2007; Neumayer & Plumper 2007). It relegates emphasis towards understanding the reasons behind these differential

effects. The Pressure and Release Model recognises that addressing the factors that contribute to vulnerability (and hence risk), are not straight forward or simple as they can be linked to issues of inequality and power which are ascribed across groups. The Pressure and Release Model presents the 'Release' aspect as the reciprocal ideology that suggests the reduction of disaster risk can be achieved through addressing social factors that contribute to vulnerability and the minimisation of exposure (Blaikie et al., 2003).

The Access Model presents a more refined viewpoint based on the Pressure and Release Model, and acknowledges the importance of appreciating hazards within the specificity of a time and place based perspective (Blaikie *et al.,* 2003: 87). This perspective must be considered with the differential vulnerability of exposed groups as a factor in defining impact. The Access Model is a magnification at a micro-level of how vulnerability is developed and how it is directed (Blaikie *et al.,* 2003:88). However, it focuses more on understanding how a disaster unfolds, including impact and coping strategies. The Access Model asserts that "the risk and vulnerability of social groups can be minimised by identifying specific points within the model which can serve as entry points for reallocating and inserting assets and resources"(Saint Cyr, 2005:4).

Cutter *et al.* (2008) looks further into vulnerability in her 'Hazards of Place' model which considers social vulnerability combined the context of natural hazard exposure in a specific geographic context. This not only gives value to the social context but further confirms that site specificity and an understanding of the local context is critical to understanding risk. Alexander (2012) extends the idea of the social focus of disaster risk reduction by suggesting that culture should also be considered as it has been rarely included within disasters research. Alexander (2012) focuses on the importance of context through his interest in culture which varies across location and hence must be examined in a specific situation or setting. Culture as a concept varies across social context and is dynamic and variable (Alexander, 2012). He suggests that "if one wants to promote change, success is more likely if it is compatible with the prevailing culture, while if it runs against culture, the adaptive process is likely to be blocked for apparently illogical reasons" (Alexander, 2012).

These models and observations, while valid and widely accepted, provide general directions for understanding disasters and disaster risk accumulation. However, much of this work has been developed from a generalised viewpoint and notes important considerations such as the combination

of dynamic pressures, unsafe conditions and root causes (Blaikie *et al.,* 2003), culture (Alexander, 2012), as well as the intersect of geography and social vulnerability as significant(Cutter *et al.,* 2008). These all point towards the need to address vulnerability in Southern Africa with a more directed and dedicated approach. While these models are functional and the sentiment is supported, an approach that goes one step further to identify the specificities of vulnerability in the region and target the most prevalent issues related to reducing their vulnerabilities and hence reducing risk is needed.

Adger recognised the need for greater effort to formally establish relationships between identity and vulnerability(Adger, 2006). It is suggested that the failure to align the determinants of vulnerability and the information available for decision making at project level creates a disconnect. Work by Carr *et al.*(2015:1) reflect this sentiment by drawing links to the specific approaches to assessing vulnerability which endeavour to engage a generalised set of "a priori determinants of vulnerability" to particular hazards in specific places. The use of these generalised approaches creates incomplete pictures of how vulnerability varies in different locations, fails to adequately explain the social division and in scenarios facing increasing vulnerability - they inherently lack accuracy. Carr *et al.*(2015:2) suggest that the underpinnings of this problem is rooted in the vision that the "essentialist view of identity creates a series of base assumptions that define the nature of the relationship between identities and individual vulnerability to specific hazards." "Identity is a multi-dimensional classification or mapping of the human world and our places it in as individuals and as members of collectives"(Jenkins, 2008:5). It denotes the ways in which individuals and collectives are distinguished in their relations with other individuals and collectives. The idea of identity is significant to our understanding of disasters and disaster risk for a number of reasons. Firstly, the social underpinnings of disasters has been recognised and hence the examination of disasters and disaster risk requires an understanding of social context (Renn, 1992; Dombrowsky, 1995; Mileti, 1999; Blaikie *et al.,* 2003; Cannon 2017). Identity as an element of social classification should therefore be situated within this understanding. Disaster impact is different across populations (Blaikie *et al.,* 2003; Bankoff *et al.,* 2004; Füssel 2007; Neumayer & Plumper 2007). A fair analysis of risk requires one to understand the dynamics which create this differential impact. Often, this is attributed to differences in the populations affected by hazards. Identity is a critical determinant associated with division in a social context, by means of recognising differences and similarities in a population (Jenkins, 2014). In order to understand and appreciate how identity influences the lived experiences of persons, there is a need to see how identity is perceived across social spheres (Jenkins, 2008:5). Unequal perceptions of identity across groups can result in the unequal allocation of power, discrimination and exclusion which contributes to vulnerability. While there are many identifications of self, age (development) and gender are considered primary since they are often established and

engrained by others from birth (Jenkins, 2008:78-79). Ethnicity/race, religion, socio-economic status and religion are also considered as elements of identity (Jenkins, 2014).

Identity is even more significant when it is realised that the categories are not exclusive, nor independent. This research contends that it is necessary to look at the intersection of elements of identity in order to gain a better understanding of social dynamics including the lived experiences of people within a specific situational context (Valentine, 2007; Taefi, 2009; Babouri, 2014). Hankivsky (2014:2) summarises the concept and significance of intersectional focus by explaining:

> (I)ntersectionality promotes an understanding of human beings as shaped by the intersection of different social locations (e.g., race/ethnicity, indigeneity, gender, class, sexuality, geography, age, disability/ability, migration status, religion). These interactions occur within a context of connected systems and structures of power (e.g. laws, policies, state governments and other political and economic unions, religious institutions, media). Through such processes, interdependent forms of privilege and oppression shaped by colonialism, imperialism, racism, homophobia, ableism and patriarchy are created.

No more is this more prevalent than in the study of risk where understanding the underlying causes of risk and vulnerability are central to designing effective remediation. Dasgupta (2010:70) explains the term intersectional, as referring to the "independence of categories that signify social oppression (in the form of marginalisation, devaluation and subordination) and of categories indicating differences among individuals." Intersectionality surmises that inequality which underpins vulnerability is the result of a combination of factors, including power relations, social location and experiences (Hankivsky, 2014:2). It is seen as "a process that results in different life experiences as well as critical disparities in the material and social resources available to people" (Engility Corporation, 2015:8). The combination of these interactions and the disparities that result have a direct impact on their ability to prepare for and recover from the impacts of stressors and adversity (Carr & Thompson, 2014; Engility Corporation, 2015).

This is highlighted in disaster studies by research into gender as an element defining identity. Gender is seen as a contributor to vulnerability and to increased risk in the context of specific hazards with women often perceived as the most vulnerable group (Enarson, 2000; Bradshaw, 2004; Fordham, 2012; Bradshaw & Fordham, 2013). The presumption is that this is always the case in all circumstances. However, this also suggests that gender roles and responsibilities are uniform across multiple contexts. This viewpoint challenges emerging literature within climate change and

development realms which presents the concept of identity as both situational and intersectional in nature (Carr & Thompson, 2014). Carr *et al.*(2015:2) posits that:

> The contemporary framing of gender, associating the category 'woman' with vulnerability to a particular stressor at a particular place and time requires understanding women's roles and responsibility with regard to a particular activity upon which the stressor has an impact and then understanding how other aspects of identity (such as age) might further shape those roles and responsibilities.

The value is not to examine gender and other identity elements as two parallel ideas but to understand how the combination influences the situation. For example, rather than look at gender (e.g. women) and age (e.g. youth), focus needs to be on understanding how young women experience a situation (Taefi, 2009). Studies by Shah *et al.*(2013) presented a comparative study of communities in the Caribbean nation of Trinidad and Tobago, which briefly touched on the fact that vulnerability and the lived experiences of men and women were intrinsically shaped by gender roles, power and status derived from socio-economic positioning. Studies in Zambia used the intersection and situational framing of the identity concept as the basis for addressing issues directly linked to spatial scale in assessing social vulnerability (Carr, 2013). The work recognised that community level risk assessments failed to refine the unique dynamics of flood related vulnerability within the community unit. This study used the Livelihoods as Intimate Government (LIG) approach to identify these vulnerabilities based on the intersection and situational framing of identities (Carr, 2013). A study was commissioned by the United States Agency for International Development (USAID) in Malawi which looked at conducting an intersectional gender analysis on a community project. The study focused again on a livelihoods perspective using the LIG approach to understand gendered livelihood and vulnerability patterns as well as presenting the processes and mechanisms through which gender exists within a specific situation (Engility Corporation, 2015:14).

The argument is presented that disasters and adversity create scenarios which exacerbate and aggravate pre-existing patterns of discrimination that occur within place-specific intersections of alternative elements of identity such as age, gender, socio-economic status, religion and ethnicity/race. In order to understand risk, we must acknowledge that it serves as an outcome of exposure viewed through social factors that influence and define an individual's sensitivity and ability to adapt to adversity (Cutter *et al*., 2003; Blaikie *et al.,* 2003; Cutter & Finch 2008; Cutter*et al.*2009; Powell *et al.,* 2011; Cannon 2017).

The final element that should be incorporated is the understanding of the process beyond just the underlying issue but instead, extending it to apply this knowledge and operationalise the results. It is with this expectation that we draw on Social Practice theory as the basis for contextualising how identity fits within the situational context and how it can be used to direct remediation. “Social practices refer to everyday practices and the way these are typically and habitually performed in society (Holtz, 2014:1).” “A practice is social as it is a ‘type’ of behaviour and understanding that appears at different locales and at different points of time and is carried out by different body/minds (Reckwitz, 2002:250)”. Social Practice theory relates to the understanding of social context through the situational analysis as a critical element in shaping individual and group behaviour (Hargreaves, 2011). A practice constitutes a combination of elements, including common cultural understandings of behaviour and justification of actions, the material infrastructure and practical knowledge/skills (Maller, 2012:5; Maller & Strengers, 2011). In the context of DRR, it is significant to understand how multiple elements of identity influence the daily lived experienced of persons and how social practices reflect these disparities potentially contribute to creating and reinforcing vulnerability. A more effective understanding of social practices serves as a means of encouraging behavioural change, particularly towards reducing vulnerability and risk as well as shaping the created targeted interventions.

In examining identity and the intersections of elements of identity, there is still a need to appreciate how individuals live and the context, as well as accept that humans do not exist in a vacuum. The learning process and how individuals attain knowledge is dependent and influenced by the social context in which they learn and the context in which they seek to apply it (Hargreaves, 2011). It is important to understand that the conditions present within the social context have the power to overshadow the basic cognitive factors and shift decision making (Stern, 2000a; Stern, 2000b). It is significant to acknowledge that interventions need to take into consideration additional variables which include norms, culture, past behaviours and self-identity and the effect they can have on behavioural responses. In order to promote risk reduction, one must expect that the responses cannot be solely influenced by direct efforts to change individual attitudes, values, beliefs and behaviours but must be aware of the situational factors that are social practices (Warde, 2005; United Nations International Strategy for Disaster Reduction Secretariat, 2008; Hargreaves, 2011). It is critical to understand not only how social factors of a particular context contribute to individual behaviour but also to appreciate that efforts at remediation must take place not just with the individual but at community level. The GASBI Model supports efforts to positively modify behaviour while taking into consideration the practices and interconnected elements that contribute to risk within the community.

As a result, DRR must consider the temporal and geographic specificity of vulnerability by operationalising generalised understandings of the social determinants of vulnerability (Carr *et al.,* 2015:1). This highlights the inherent need to measure the impacts and implications of social determinants against the conditions present within a particular context. As a result, "successful programmes for DRR must look beyond generalised populations of concern to include the intra-population characteristics (defined by elements of identity) that produce vulnerability to particular hazards (Carr *et al.,* 2015:1 citing Cannon, 1994).

The following will show how the situational and intersectional framing of identity (drawn from theories of disaster risk through understanding dimensions of social vulnerability) can be used to frame and direct intervention development for DRR in Southern Africa by seeking to address issues surrounding the nature of risk in the region. It will highlight the creation of the GASBI Model which expounds on these theories, in order to present a launching point for creating a more refined, site-specific and targeted model for prioritising risk reduction in Southern Africa.

2.6 Methodology

The article followed a critical review and assessment of the current nature of disaster risk in the Southern Africa region. A literature study gathered data from current government and regional reports, peer reviewed academic articles and input from civil society organisations involved in risk reduction, across the Southern Africa region in the form of a situational analysis. The situational analysis provided an overview of the social context present in Southern Africa. The data was acquired from the situational analysis regarding disasters and DRR across the region within a timeframe ranging from 2005-2017 to document critical issues which exist. These issues will be explained in terms of how they contribute to the complexity of risk and specifically the unique nature of vulnerability in Southern Africa. The data also serves to identify and highlight how these conditions challenge DRR. The analysis draws on these data and uses the theoretical frameworks highlighted to shape the development of the GASBI Model as a specific response to addressing DRR in the region based on an intersectional analysis of elements of identity and a situational analysis of the unique conditions contributing to vulnerability in Southern Africa.

2.7 Towards A More Refined Perspective of Risk in Southern Africa – A Situational Analysis

The nature of risk in Southern Africa is influenced primarily by hazard exposure derived from climate change and the characteristics of the population which make them more susceptible to impact (Holloway, 2003; Casale *et al.* 2009; United Nations Economic Commission for Africa, 2015). Regarding hazard exposure, it has been documented that since 2005, countries in the Southern Africa region have experienced severe alterations regarding the magnitude, timing and distribution of storms and the frequency and intensity of droughts (Davis, 2011;United Nations Economic Commission for Africa, 2015), as well as increased prevalence of tropical cyclones and epidemics (Mulugeta *et al.,*2007). The impacts of climate change related hazards are expected to threaten food security and agriculture, as well as water resources (Davis, 2011).

Disaster risk in the Southern Africa is further challenged by the presence of determinants of vulnerability which are considered unique to this region. The region is characterised by endemic poverty and underdevelopment, vulnerable livelihoods, increasing population growth patterns among young people, and the implications of the HIV/AIDS epidemic (Holloway, 2003; Casale *et al.,*2009).

2.7.1 Poverty and Underdevelopment

The Sub-Saharan African region is considered to be the poorest in the world. Income poverty has increased in Sub-Saharan African and it is reported that over half of the population (300 million people) is living on less than $1 a day (United Nations Development Programme, 2006; Handley *et al.,*2009:269). Poverty is not just an indicator of lack of income but has broader implications for the affected population. “Poverty reflects a sense of helplessness, dependence and lack of opportunities, self-confidence and self-respect on the part of the poor” (Handley *et al.,*2009:1). In terms of human development, the region has stagnated or declined (Handley *et al.,* 2009). “The majority of SADC countries (9 of 15) fall within the low human development index (HDI) category with Lesotho, Zambia, Malawi, Zimbabwe falling below the sub-Saharan Africa HDI of 0.475”(United Nations Economic Commission for Africa, 2015:viii).The low human development reflects a failure by many of the countries in the region to provide opportunities for improvement and advancement through capacity building and engagement. Underdevelopment on the other hand represents an economic situation in which there are limited opportunities for self-improvement through capability

advancements and participation, which condemns many people to a life of struggling for basic survival.

2.7.2 Vulnerable Livelihoods

“Poor and marginalised households and communities in Southern Africa make greater use of provisioning services in the form of natural resources as the basis of their livelihoods.” (Shackleton & Shackleton, 2010:6). However, rural livelihoods in Southern Africa are extremely vulnerable because the dominant livelihood activity of subsistence farming is highly risky, being dependent on inputs that are either unreliable (in the case of rainfall), declining (farm size, soil fertility), or financially inaccessible to the poor (fertilisers and improved seed) (International Development Committee, 2003:16). Mono-cropping of maize is a further concern as it is regarded as being drought sensitive and likely to be affected by climate change effects (Regional Inter-Agency Standing Committee, 2016). The limitations of persons in the region to diversify their means for earning a living, the lack of non-agriculture related employment opportunities in rural areas, weak markets and the labour constraints that prevent vulnerable households from seeking additional work only reinforce weak livelihoods. The ongoing threats posed by declining farm size and soil quality issues, the costs of seeds and fertilisers and the variations in inputs such as rainfall undermine the stability of agriculture-based livelihoods in the region (International Development Committee, 2003). With over 70 percent of poor people in Sub-Saharan Africa engaged in and dependent on agriculture and subsistence farming for their livelihoods, any flux in productivity has the potential to not only impact on their income but also to challenge regional food security (Department for International Development, 2002; Regional Inter-Agency Standing Committee, 2016)

2.7.3 Population Growth Patterns

Age becomes a significant issue as the Southern Africa region has a population bulge with the largest segment comprised of children and young people (United Nations Population Fund, 2014). The development of Sub-Saharan Africa is closely linked to the well-being of its young people. The youth population aged 10-24 years represent a third of the total population in the region (United Nations Population Fund, 2012:4). There is a need for countries in the region to prepare for this growing population as well as recognising their diversity and increasing maturity with age. The failure to involve and engage young people will continue to perpetuate the social and economic challenges that they currently face and will have long term implications for development (United Nations

Population Fund, 2012). It is forecasted that the number of young people in sub-Saharan Africa will expand to 436 million persons between age 10-24 years by 2025 (United Nations Population Fund, 2012:4). This age range covers a large portion of the group designated as the adolescent age group which incorporates persons aged between 10-18 years according to the American Psychological Association (cited by Curtis (2015: 1).

2.7.4 HIV/AIDS Epidemic

Southern Africa represents the global centre of the HIV epidemic (Sawers & Stillwaggon, 2010). In 2015, there were 24.7 million people living with HIV in Sub-Saharan Africa which represents 71% of the total globally (World Health Organization & UNAIDS, 2015:26). Within the same year 1.1 million persons died of AIDS related deaths and there were an additional 1.5 million new infections (World Health Organization & UNAIDS, 2015:26). While the recorded number of deaths has declined significantly between 2003-2013, there have been an additional 1.7 million people dependent on antiretroviral therapy (World Health Organization & UNAIDS, 2015). Statistics reveal that only 45% of people living with HIV are aware of the HIV status which undermines the ability of persons to adequately treat and maintain their health (World Health Organization & UNAIDS, 2015). The prevalence of HIV/AIDS severely impacts on the quality of life, health and livelihood options available to many persons in the region.

2.7.5 Context, Identity and Risk in Southern Africa

Unfortunately, the issues identified within the situational analysis of Southern Africa are neither simple nor straightforward. They require an understanding of links and interactions across sectors and the implications they have for defining vulnerability and disaster risk. It is within this context that policy makers and practitioners must look at how these conditions contribute to vulnerability and for whom this vulnerability is greatest or most likely to affect. The understanding of social vulnerability and the implications of identity within Southern Africa play a central role in defining risk and shaping risk reduction.

Holloway (2003) seeks to highlight these complexities by providing insight into how the impact of HIV/AIDS challenges risk reduction and the response to disasters in Southern Africa. She explains that traditional famine remedies would include activities such as resistant crop planting. However

these options were considered non-viable because the majority of the famine affected populations were already physically weakened by implications associated with HIV/AIDS (Holloway, 2003). This not only presents the impact in terms of the unique situational context of Southern Africa but it suggests that one must also look further into the issue of risk to understand the additional dimensions of the problem. The unique conditions present in Southern Africa including poverty and underdevelopment, vulnerable livelihoods, population growth and the HIV/AIDS epidemic are overlapping, interdependent and complex in terms of their contribution to vulnerability and risk. For example, the fact that poverty reflects limitations on resources and resources are seen as necessary for protection and security. The absence of these resources creates vulnerability as persons are not able to adequately protect themselves and rebound from the impacts of adversity. When people cannot protect, themselves they are more likely to be negatively affected by the event which could result in significant losses to their already limited resource base. This further reinforces poverty and reinforces the cycle. This complex relationship is referred to as the disaster risk-poverty nexus (The World Bank and International Bank for Reconstruction and Development,2010).

The complexities continue as many of the conditions mentioned in the situational analysis have age and gender based implications. They cannot be viewed in general terms and hence it is critical to look not only at gender and age dimensions of the conditions, but also to consider the intersection of identities as a further focal point for understanding vulnerability. For example, in Holloway's example of famine and the impact of HIV/AIDS, it is critical to appreciate that in Sub-Saharan Africa, women make up 50 per cent of the agricultural labour force (Eriksen *et al.,* 2008). Combine this information with the fact that the HIV/AIDS epidemic has developed strongly along gender and age lines. In sub-Saharan Africa, adolescent girls and women age 15-24 years are at particularly high risk of HIV infection accounting for 25% of new infections while women in general accounted for 56% of new infections among adults (UNAIDS, 2016:26). This prevalence has been linked to "harmful gender norms and inequalities, insufficient access to education and sexual reproductive health services, poverty, food insecurity and violence. (UNAIDS, 2016:8)" Indirectly, women also bear the burden of care for others taken sick by the disease or for the orphaned children left behind (Karimli *et al.*,2012). The fact is that the disease targets young persons in the peak of their productive years, affecting persons who serve as the basis for economic growth, and who are essential for the functioning of the next generation (Stabinski, 2003:1101). Holloway's (2003) example highlights that the conditions present in the situational analysis of Southern Africa, complicate already difficult circumstances. However, by applying intersectional lens which considers gender and age, we can create a better understanding of risk for the region.

2.8 Gender Age Socio-Behavioural Intervention - A Concept

The GASBI Model seeks to build on the premises presented earlier in the article which validates the situational and intersectional framing of identity as a means of guiding DRR in Southern Africa based on the nature of risk. The GASBI Model, as presented in Figure 2-1, serves as a schematic representation of the relationships that need to be considered in efforts to reduce risk within Southern Africa with emphasis on the situational or social context and the specific intersection of gender and age identities.

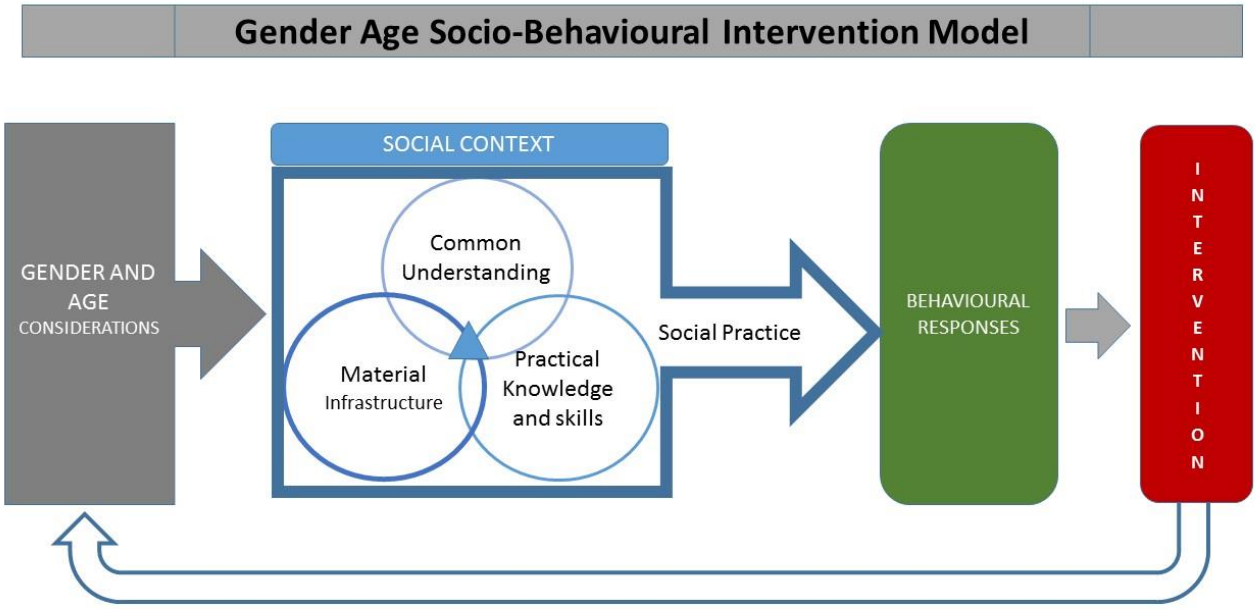

Figure 2-1: Gender Age Socio-Behavioural Intervention Model - A Schematic Representation

2.8.1 Gender Age Dynamics

The selection of gender and age as the primary lens for consideration was based on their prevalence as the primary elements of identification. This served as the starting point for the development of the Model, as indicated in Figure 2-1. Gender serves as a socially constructed category or classification which delineates differences between males and females (Enarson, 2000, 2007). It is used in the allocation of roles in a social context and can often reflect inequality (Jenkins, 2014). In the context of DRR, it has been presented that gender, followed closely by age, are the most common elements

which influence human vulnerability (Cutter*et al.,* 2003a; Bradshaw, 2004; Dwyer *et al.,*2004; Fordham, 2012). Age can be seen as a biological process but in can also be seen as a social construct which allocates meanings to being young or old (Fealy *et al.,* 2011). Each element, gender and age, are significant in their own right in contributing to the increased vulnerability in the context of Southern Africa. However, the inclusion of both gender and age, and their prioritisation in the model, should not be regarded as two independent points of departure. These two elements play a significant role in Southern Africa culture wherein youth verses agedness and men compared to women, bear significant differences in their lived experiences and hence the risk they face (United Nations Environment Programme, 2008). The literature shows that socially constructed status, roles and norms are gendered, and intersect with age and/or ethnicity to create unequal levels of marginalisation between men and women (La Masson & Langston, 2014). The complex interplay of factors related to gender and age cannot be seen in isolation in Southern Africa because they each reinforce vulnerability and increase risk.

There has been a call for gender inclusion in disaster risk reduction at a global scale, which prioritised the unique gender based needs of the population in risk reduction activities (Briceno, 2002; United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction, 2005; United Nations Office for Disaster Risk Reduction, 2015). Women often have less decision making power and accessibly in terms of asset ownership (Enarson, 2007; Midgley, 2011). Women are among the resource dependent and the most poor in many of the countries of the region, which in turn limits the resources they have at their disposal to withstand the impact of hazards (Ackermann & de Klerk, 2002; Chersich & Rees, 2008; Midgley, 2011). Disparities also follow along age lines as young people have similar limitations on decision making and participation, yet they are the fastest growing population demographic in the region (Agbor *et al.,* 2012) The unequal balance of rights allocated to different social groups has implications for aspects such as access to resources and social positioning. Youth as a group are disregarded in decision making because they are not perceived as being capable of contributing meaningfully to solutions. This group is rarely prioritised in the general context of the population and their input is rarely considered in disaster risk reduction activities and this is particularly true for girls (Forbes-Biggs & Maartens, 2012; United Nations Population Fund, 2014). The realisation that this group is traditionally not valued in terms of decision making and participation has serious implications as it suggests that a large segment of the population is thus voiceless while at the same time, being highly vulnerable to hazard impact. A further call has also been made to include the input of the young and aged in disaster risk reduction (United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction, 2005; United Nations Office for Disaster Risk Reduction, 2015). Once again the diversity of needs across

age groups is regarded as a deficiency in current risk reduction actions (HelpAge International, 2015). However, it must be noted that these elements of identity should not be considered in parallel but as a composite – not women and youth but young women as a specific identity. These differences impact on how each group faces adversity and defines their ability to withstand and rebound. The intersectional focus of both groups is necessary to further appreciate the extent of vulnerability among the doubly affected.

The GASBI Model calls for the recognition and prioritisation of both gender and age as a focal point for leading risk reduction policy and praxis through intersectional analysis of both aspects. In cases where these categorisations limit access to social goods and resources (including education, employment, quality education and health services) such as illustrated in the disparities associated with gender and age in Southern Africa, it is essential that interventions can be grounded in an understanding of how these factors are connected and interact together.

2.8.2 Socio-Behavioural Intervention

The GASBI Model extends beyond traditional disaster based theories such as the Pressure and Release Model (Blaikie *et al.,* 2003) and vulnerability theories (Adger, 2006; Cutter, 2009) which looks at social roots of risk and disaster causation. The focus on social conditions and context also forces policy makers and practitioners to look at the community context in which the target group exists. While traditional DRR activities have looked at the community as the focal point for action, this Model prescribes looking at a target group and then drawing outward to understand and involve the community (United Nations International Strategy for Disaster Reduction, 2005). This is reflected in the Model (see Figure 2-1) where it indicates the directionality of focus from the gender- age dynamic, as a starting point, to examining it within the social or situational context. This encourages the examination of how the gender-age dynamic influences social practices and the impact of these social practices on vulnerability. Communities and the broader society need to be focal points because individuals live and exist within these circumstances and the social practices that take place are shaped within the dynamics present. In terms of developing interventions, communities need to be formally introduced to the experiences and vulnerabilities that the target groups face in order to help understand the roots of their susceptibility. This two-way dialogue between the affected (gender/age target) and the community/society can also serve as a means for building greater understanding and consideration for lived experiences that may be overshadowed or overlooked in daily struggles (United Nations Development Programme &European Commission Humanitarian

Office, 2010). Understanding social context and social practices can be a tool for understanding the effects of social stereotypes, discriminatory action and exclusion on the lives of gender-age based target groups. This appreciation can also be used to fuel DRR interventions both at local level as well as directing the long term need for social change which is often at the root of social vulnerability and serves as factors contributing to underlying risk in the region.

Hence, the efforts to promote effective risk reduction activities and actions cannot be solely influenced by direct efforts to change individual attitudes, values and beliefs. Their behaviour is often constrained by contextual factors embedded within social practices (Warde, 2005; United Nations International Strategy for Disaster Reduction Secretariat, 2008; Hargreaves, 2011). It is critical for one to understand not only how social factors of a particular context contribute to individual behaviour and social practices but also to appreciate that efforts at remediation must not just target individuals but also must take social context and the social practices they shape, into consideration. The GASBI Model supports efforts to positively modify behaviour while taking into consideration the practices and interconnected elements that contribute to risk within the community in a targeted activity which seeks to effect change.

2.9 Conclusions

Following a situational analysis of Southern Africa, critical issues were identified and served as the basis for shading the unique dimensions of risk in the region. Issues such as poverty and underdevelopment, the dependence on vulnerable livelihoods, population growth trends and the spread of the HIV/AIDS epidemic all influence conditions which affect how certain members of the population experience life and subsequently how they experience risk. The combination of this unique set of dynamics creates a scenario wherein traditional approaches to risk reduction fail to be as effective as envisaged. As a result, this uniqueness requires a different approach and a new ideology for attempting to address the underlying causes of vulnerability and risk. The paper presented a path of development that started with theories surrounding the formation of disasters and disaster risk and traced it through the focus on social vulnerability and theories appreciating the contributions of culture and the critical importance of location as a basis for shaping the situational context. While still failing to fully appreciate the nuances of vulnerability in the region, theoretical frameworks were borrowed from sociological fields and targeted the need to go beyond the traditional single axis of identity. A single axis is often the basis for examination such as in studies focusing on gender or age or ethnicity. This mono directed perspective fails to provide complete

pictures of vulnerability. Concepts of multidimensional analysis through intersectionality form the basis of the study presenting a multi-axis perspective for understanding the lived experiences of persons in specific contexts serves as the basis for truly understanding the vulnerability of the region in depth. The ideal of intersectionality is then framed within the Social Practice theory which uses the elements of gender and age as the lens for viewing the lived experiences of persons particularly through the social practices which give insight into the development or reinforcing of vulnerability for the group. This complex multi-focal analysis is conceptualised formally in the GASBI Model which is presented as the embodiment of the situational and intersectional framing of identity as the basis for framing and directing intervention development for DRR in Southern Africa by seeking to address issues surrounding the unique nature of risk in Southern Africa.

3.1 Article 2: A New Protocol in Disaster Risk Reduction Policy and Praxis for the Southern Africa Region: Gender Age Socio-Behavioural Intervention and the GIRRL Programme Model

This article was submitted and published in the Proceedings of the ANDROID Network Conference (October 2014) see *Appendix 7.2 Proceedings of the Second ANDROID Doctoral School*.

3.2 Abstract

Gender and age considerations are not prioritised within the context of disaster risk reduction (DRR) policy and praxis in Southern Africa. Research suggests that the impact of gender and age considerations within DRR is underestimated or undervalued (Plan International, 2013). The primary reasoning for this undervaluation is based on socially exclusive practices which are derived from unequal power allocations within the social context (Plan International, 2013; Rashid & Shafie, 2013). This inequality is evident in stereotypes and biases, which limit various aspects of life for the affected. 'Age' and 'gender' are delineations by which power is allocated. As a result, those individuals who fall into these negative aspects of categories, depending on the scenario, are often pushed to the periphery of society. This peripheral positioning also creates greater vulnerability and hence greater exposure to disaster related risk for the demographic.

The Gender Age Socio-Behavioural Intervention (GASBI) Model, employing the Girls in Risk Reduction Leadership (GIRRL) Programme as a multi-site case study will be introduced as a means of addressing the deficiencies in DRR policy and praxis in Southern Africa and will serve as a new protocol for guiding the integration of gender and age considerations into praxis.

3.3 Keywords

Disaster Risk Reduction; Adolescent Girls; Girls in Risk Reduction Leadership Programme; Gender Age Socio-Behavioural Intervention; Southern Africa.

3.4 Introduction

The global trends suggest that adolescent girls “have been ignored; their views unheard and their needs unmet” pertaining to disasters, humanitarian response and development initiatives (Plan International, 2013:9). There has been a “one-size fits all” approach rather than collecting specific data requisite for creating effective and efficient programmes designed uniquely for adolescent girls (Plan International, 2013). Research suggests that the impact of both gender and age considerations (reflected in the demographic of ‘female adolescents’) within DRR is underestimated or undervalued (Plan International, 2013). The primary justification for this undervaluation is socially exclusive practices derived from unequal power allocations within society (Rashid & Shafie, 2013). The term social exclusion refers to “the process by which certain groups are systematically disadvantaged because they are discriminated against on the basis of ethnicity, race, religion, sexual orientation, caste, descent, gender, age, disability, HIV status, migrant status or where they live (Rashid & Shafie, 2009:17).

Gender and age based disadvantage and exclusion is prevalent in many traditional cultures within the Southern African region and is evident of practices such as those that limit the access of women and adolescent girls to land ownership, finance and education, as well as dissuading them from participation in decision making and public forums (United Nations Children's Fund, 2006). This disadvantage and discrimination has also been documented where adolescent girls, as a group, have been exposed to alienation within the context of disaster reduction or emergency response programmes (Genade & Van Niekerk, 2014). Limited studies in Africa (Ethiopia, South Sudan and Zimbabwe) have revealed that girls were the most negatively affected in disasters based on factors linked to discriminatory practices such as greater workload, limited opportunities, early marriage, negative general attitudes towards girls as well as failure to consider special needs of girls (i.e. limited physical strength and vulnerability to disease) (Rashid & Shafie, 2013). The United Nations International Strategy for Disaster Reduction Secretariat (2009:30) refers to vulnerability as being the characteristics and circumstances of a community that make it susceptible to the damaging effects of a hazard. It is evident that social exclusion in Southern Africa contributes to disadvantage which reinforces the vulnerability of adolescent girls to disasters (Hoogeveen *et al.,* 2005; International Save the Children Alliance, 2008).

DRR policy and praxis reveal that gender and age based considerations are not being prioritised and actualised in the Southern Africa context. This failure is even more significant in light of the

realisation that more women and girls die as a result of disasters than men, making not just gender but also age as significant factors in disaster risk (Enarson & Morrow, 1998; Thurairaja & Baldry, 1998; Cutter*et al.,* 2003; Cutter, 2003; United Nations International Strategy for Disaster Reduction Secretariat, 2008; Cutter *et al.,* 2009; Plan International, 2010; Plan UK, 2010; United Nations International Strategy for Disaster Reduction Secretariat, 2012). The concept of *risk* is described in this context as the potential disaster losses, (lives, livelihoods, assets) which could occur to a particular community (United Nations International Strategy for Disaster Reduction Secretariat, 2009:30).

The growing adolescent demographic that makes this group the majority population in the region, combined with the fact that climate change is increasing the frequency and intensity of natural hazards further reiterates the need for gender and age considerations in DRR efforts (United Nations Population Fund, 2014). However, this failure presents an opportunity to address the current inadequacies involved in reducing the risk faced by those affected by gender and age related exclusion. The opportunity is capitalised by the creation of a new framework targeting specific criteria including: gender, age, socialisation/social conditions and behaviour modification. The proposed model has been termed the '*Gender Age Socio-Behavioural Intervention (GASBI)*'.

The research builds on the concept of GASBI Model (*see Section 2.8 Gender Age Socio-Behavioural Intervention Model*) as well as highlighting the GIRRL Programme which seeks to serve as an application of the GASBI. The GIRRL Programme was implemented at five sites within the Southern African region, including South Africa, Zimbabwe, Zambia, Lesotho and Malawi through a World Bank Provention Consortium grant and subsequently replicated with support from the Government of South Africa, United States Agency for International Development/Office of Foreign Disaster Assistance and the Cooperative for Assistance and Relief Everywhere (CARE) organisation.

3.5 Gender Age Socio-Behavioural Intervention- The Concept

In response to the acknowledged need for gender and age considerations in disaster risk reduction policy and praxis in the Southern Africa region following neglect, the GASBI is offered as a model for addressing the neglected issue. GASBI is being proposed as a practical and localised approach to specifically identify and address the unique social drivers of vulnerability for a target group (defined by both age and gender) (*presented in Section 2.8.1 Gender-Age Dynamics*). The intervention Model

is derived from a strategic combination of leading theories linked to disaster risk, vulnerability and social practice to address deficiencies and weaknesses in current policy/practices for addressing risk in highly vulnerable groups such as adolescent girls (Wisner & Luce, 1993; Cutter, 2003; Blaikie *et al.,* 2003; Cutter*et al.,*2003).

To be effective GASBI needs to be operationalised at the community level with the collaboration of multiple, local stakeholders and the input of the participants. The practical application should take into consideration the social context and involve an assessment of the community and the needs of the target group in order to contextualise their specific vulnerabilities and how they fit within the broader community (*see Section 2.8.2 Socio-Behavioural Intervention)*. The approach then applies strategic activities oriented towards developing positive behaviours through the appreciation of social processes and practices, in order to facilitate the reduction of vulnerability and to create community resilience.

GASBI first recognises disaster theory, particularly supporting the works of Perry (2000), Renn (1992), Dombrowsky (1995) and Mileti (1999) which support that disasters are social functions influenced by social conditions and practices*(See Section 2.5 Theoretical Underpinnings and Conceptualisation)*. GASBI acknowledges the need to integrate considerations regarding social context in order to effectively seek to reduce risk. Braveman (2010: 32) provides a definition of social conditions as being "the array of social, economic and political circumstances including the built environments that strongly shape and are shaped by those circumstances in which people live and work". This acknowledges that disasters are influenced by social conditions and as such, effective DRR must take social factors into consideration.

The second framing theory used to justify the validity of GASBI recognises the disparities of disaster impact across social groups. Vulnerability theory suggests that certain individuals or social groups possess characteristics that impair their ability to withstand adversity according to Adger (2006), Cannon (1994; 2000, 2017), and Füssel (2007). Inequalities derived from characteristics associated with age, gender, religion and disability can limit or exclude access and power in society, which restrains one's ability to rebound following hardship (Wisner & Luce, 1993; Cutter, 2003). The combination of multiple characteristics such as age and gender increases the vulnerability of the

group. DRR should recognise the need to prioritise persons/groups which are least able to resist disaster related harm.

The GASBI Model borrows from Social Practice Theory based on its ability to acknowledge additional variables such as moral norms, beliefs, cultural context, past behaviours and self-identity as influences on behaviour (Berger & Luckmann, 1991; Conner & Armitage, 1998; Hargreaves, 2011). This Model recognises that individuals do not live in a social vacuum but in reality, their circumstances and local context can override all cognitive factors (Reckwitz, 2002; Hargreaves, 2011). Hence, the efforts to promote positive risk reduction activities and actions cannot be solely influenced by direct efforts to change to individual attitudes, values and beliefs but are often constrained by contextual factors embedded within social practices (Warde, 2005; United Nations International Strategy for Disaster Reduction Secretariat, 2008; Hargreaves, 2011). It is critical to understand not only how social factors of a particular context contribute to individual behaviour but also to appreciate that efforts at remediation must take place not just with the individual but also at the community level. The GASBI Model supports efforts to positively modify behaviour while taking into consideration the practices and interconnected elements that contribute to risk within the community.

3.6 Disaster Risk Reduction Policy and Praxis - A Regional Perspective

There is a lack of binding legislation governing the Southern Africa region as a whole, and as a result, the analysis of policy rather focuses on the courses of action, regulatory measures and priorities for funding identified by the regional representative bodies. The United National International Strategy for Disaster Reduction (UNISDR) Africa Region sought to support the region's attempt to implement the Hyogo Framework for Action in DRR (Vordzorgbe, 2006). The Hyogo Framework derived from the World Conference on Disaster Reduction (2005) represented the course of action for achieving DRR from a global perspective and had been adopted as a course of action by many countries in Southern Africa, including Zambia, Zimbabwe, Lesotho, Malawi and South Africa (United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction, 2005; Southern African Development Community, 2012; United Nations Economic Commission for Africa, 2015). Hyogo promotes the prioritisation of five key actions which include the need for national and local prioritisation of DRR, the identification and monitoring of risks and the use of early monitoring systems; the creation of a culture of safety through information and innovation; the reduction of risk factors; improved effectiveness of disaster preparedness at multiple

levels (United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction, 2005: 6).

The United Nations International Strategy for Disaster Reduction in their follow up summary report for the period 2011-2013, confirmed the limitations that exist in the actualisation of the Hyogo Framework (United Nations International Strategy for Disaster Reduction Secretariat, 2014). This admission reflects the difficulties in achieving praxis in the region. Although referring broadly to the African context, the report emphasises the following deficiencies: the need to build community resilience, the need to ensure that women and children have access to and are involved in DRR; promoting the engagement of youth in environmental protection, climate change adaptation, economic empowerment and information sharing, as well as the importance of involving the contributions of youth in DRR activities (Vordzorgbe, 2006).

There is an emerging sentiment reflected in the most recent statement regarding Africa's contribution to the post 2015 Hyogo Framework made by the 5th Africa Regional Platform and 3rd Ministerial Meeting for Disaster Risk Reduction. The Statement made five distinct recommendations highlighting the need for public participation by youth, children and women to help ensure that their leadership and capacities are enlisted in risk reduction efforts which are reflected the previously mentioned deficiencies (Southern African Development Community, 2014). Further references are made to the recommendations for institutionally linking stakeholder forums including women's and youth groups (Southern African Development Community, 2014). The Statement is significant in acknowledging the need for including specific groups such as youth, children and women, however, this call for action has not yet been reflected practice. The document reiterates the realisation of Africa's large and growing youth population as a significant consideration in efforts to reduction risk in the region (Southern African Development Community, 2014).

The African Union (AU) as another regional body has further validated the need to prioritise the development of institutional frameworks, good governance practices, emergency response, risk identification and knowledge management as key aspects of the risk reduction strategies (The World Bank and the International Bank for Reconstruction and Development, 2010). The Southern African Development Community (SADC) Disaster Risk Reduction Unit (DRRU) further supports the inherent and imperative need to prioritise risk reduction. However despite its intent, the position of

DRRU policy is generally criticised for its overly idealistic nature and its failure to prioritise local level actualisation (International Resources Group, Ltd 2001; The World Bank and the International Bank for Reconstruction and Development, 2010). The implications are most widely seen at community level wherein the need to focus on specific groups and encourage gender and age considerations are insufficient (The World Bank and the International Bank for Reconstruction and Development, 2010). It's directives are devoid both of the explicit recognition of vulnerable groups and the acknowledgement of the need to specifically target these groups through local level initiatives (International Resources Group Ltd, 2001; Swarup *et al.,*2011).

Hence to date, the gap in DRR policy and praxis from a regional perspective pertaining to the gender age considerations still exists to a great extent and creates a void that needs to be addressed and acknowledged. The recent call for the inclusion of women, children and youth is a moderate effort but this has yet to bring about the marked change necessary to take Southern Africa's DRR to a state of gender–age maturity.

3.7 Southern Africa Disaster Policy

The majority of countries within Southern Africa have some form of disaster-focused legislation which aims to provide policy guidance. However, when examined, it becomes apparent that much of the independent country legislation is weighted down with more descriptions regarding the structural hierarchies of national and sub-national disaster management entities and less on how DRR should be actualised. In Lesotho, most legislation is dominated by details regarding structural organisation, power allocations (within each country) and the mandates of each entity in terms of responsibilities, protocols, reporting and obligations. Such is found in five of eight sections within the Lesotho Disaster Act (Government of the Kingdom of Lesotho, 1997).

It should be noted that significance is linked not just to what the legal directives state but also what information is implicit. Some of the Southern African countries fail to make reference to central ideas associated with disasters and risk reduction praxis such as 'risk', 'vulnerability', 'capacity', 'exposure' and 'hazards'. The national disaster legislation from Lesotho for example, fails to make reference or acknowledge the term 'vulnerability' which could be argued as being one of the core elements necessary for addressing risk (Government of the Kingdom of Lesotho, 1997). On the other hand, the South African and Zimbabwean legislation both fail to specifically recognise terms such as

'gender', 'youth' or 'women' (Government of Zimbabwe, 1989; Republic of South Africa, 2002). The omission of the terms 'gender', 'children' or 'women' could also construe the lack of prioritisation in national disaster legal framework which also has negative repercussions for directing praxis. The Zambian policy document provides a definition of the term 'gender' in its glossary stating its reference to:

> (...social and economic differences between men and women that are learned, changeable over time and have wide variation within and between cultures. This is opposed to sex that refers to the biological differences between men and women. Gender is used to analyse roles, responsibilities, constraints and opportunities of men and women in development (Republic of Zambia, 2005:vii).

Zambia further provides the recognition that disasters do favour certain groups by indicating that "disaster effects are gender selective, affecting mostly women, children and elderly, hence gender consideration in disaster management shall be prominent at all levels (Republic of Zambia,2005:29). This document fails to expand on this notion, nor give clear guidance as to how this should be done in practice. Although there is reference to 'children and the elderly', again, there is no acknowledgement that age considerations should be made. According to the introductory section, despite specific references to the participation of civil society, government including local, national levels of government, management/technical/review committees as well as the mining industry, the Truckers Association of Zambia and utility companies like ZESCO and Lusaka Water and Sewerage, there was no reference to the involvement of either women's or youth groups in Zambia (Republic of Zambia,2005). The Zambian policy does however direct the inclusion of women for the Satellite Disaster Management Committee by stating "two men and two women (to be) selected to represent the community"(Republic of Zambia,2005:29-30). In contrast, Part IV Section 2 subsection (a-o) of the Lesotho-based disaster legislation provides a detailed list of District Disaster Management Team members which is inclusive of church members and school representatives, yet there are no provisions made for representatives of women's organisations or youth groups (Government of the Kingdom of Lesotho, 1997).

The overview of Southern Africa's disaster policy is broad and incomplete. The need to provide more specific references to cover gaps in areas such as acknowledging the value of gender and age considerations, as well as guiding the implementation of these considerations in praxis would make a significant contribution to the value of the policy.

3.8 Southern Africa Disaster Risk Reduction Praxis

In a report summarising DRR praxis in the Southern Africa region, it was acknowledged that *ex-ante* activities were focused on four main areas including technical assistance, sector activities, advisory services and leveraging investment (The World Bank and the International Bank for Reconstruction and Development, 2010). Specific activities were identified as general awareness, policy support, institutional strengthening, risk mitigation and investment, supporting risk finance systems, as well as improving emergency response and preparedness (The World Bank and the International Bank for Reconstruction and Development, 2010).

The focus for DRR praxis has been rooted in community based projects, many focusing on water and sanitation, food security and sustainable livelihoods; disaster risk and vulnerability assessments; climate change adaptation and early warning systems development; education and awareness and capacity building for communities and government (United Nations Children's Fund, 2011; United States Agency for International Development, 2011; Plan International, 2013; Republic of Zambia, 2014). The majority of these projects were led and funded by donor agencies including the Department of Foreign International Development, United Nations Children's Fund, Catholic Relief Services, Practical Action, The Red Cross, Cordaid, Oxfam, CARE, The United States Agency for International Development, Office of Foreign Disaster Assistance, The World Bank and the United Nations Development Programme (United Nations Children's Fund, 2011; United States Agency for International Development, 2011; Plan International, 2013; Republic of Zambia, 2014). Many of these projects worked in partnership with local governments in order to build institutional capacity of government workers as well as for local community members (Southern African Development Community, 2014). However, there was a lack of government-led, practical action which was suggestive of the governments limitations in prioritising and instigating activities on the ground (International Resources Group Ltd 2001).

Leading agencies present DRR projects with statements such as 'targeting vulnerable Zimbabwean farmers' or 'benefiting 45000 individuals and schools' (United States Agency International Development & Office of United States Foreign Disaster Assistance, 2011:6-7). These references often overlook specific details such as the critical involvement of and focus on the needs of women, adolescents or children, who do make contributions to conservation agriculture projects or who attend awareness programmes at local school. This lack of specificity leaves vulnerable groups non-prioritised and projects and programmes in their oversight fail to benefit those most distinctly at risk.

The combination of both age and gender considerations fails to be acknowledged in the context of many examples of DRR praxis and are overshadowed by broader community based projects that fail to appreciate the contributions and needs of vulnerable groups.

3.9 The GIRRL Programme

The GIRRL Programme serves as the application of GASBI in praxis, highlighting the need to remediate or reduce the negative effects of socially exclusive practices, which are prevalent features in many Southern Africa traditional cultures (United Nations Children's Fund, 2006). This imbalance caused by the exclusion results in adolescent girls often having a lack of social voice. The socially exclusive practices reinforce the idea that girls are victims and are powerless, particularly in the context of hazards and disasters. The concept of dependency and weakness is further reinforced through the prevalence of physical and sexual violence, poverty, dependence on alcohol and drugs, forced prostitution, teenage pregnancy and exposure to disease (HIV/AIDS, sexually transmitted infections and tuberculosis) such is the scenario in the informal settlements of South Africa and Zambia (Forbes-Biggs & Maartens, 2012).

The GIRRL Programme sought to address the issue of risk reduction by minimising the social vulnerability of adolescent girls through its focus on gender and age specific capacity building activities for empowerment and enabling agency (Forbes-Biggs, 2008; Forbes-Biggs & Maartens, 2012). Originally implemented in Ikageng Township (North-West Province, South Africa) in 2007-8 through funding from Provention Consortium/World Bank (Forbes-Biggs, 2008), the Programme received support from the Municipal Disaster Centre and was replicated in three additional sites in the district (Tshwelelang, Tching, Kanana townships).

The GIRRL Programme methodology was instigated as a multi-session (15-25 based on the needs of the group, held twice weekly for 3- 5 months) training and participatory information-sharing Programme, GIRRL targeted twenty adolescent girls (aged 13-19 years) per site who would be developed as leaders for building resilience within their communities. Girls were identified by project leaders and school officials based on specific criteria, including living in a poor community, aged 13-19 years old, being female and willingness to help others. This capacity building was conducted through the provision of training and information sharing in areas such as personal (mental, physical and sexual) health, self-defence, peer education, decision-making, first-aid, fire safety,

environmental awareness, community-based disaster risk assessment and effective communication. Each session is carefully adapted to the specific community context through extensive collaboration and contributions by the project leaders, stakeholders and key persons from within the locality and insight of the girl participants themselves (United Nations International Strategy for Disaster Reduction Secretariat, 2008; Forbes-Biggs & Maartens, 2012). Following the sessions, the participants hosted a community awareness campaign based on their perceptions of hazards in the area. They used song, poetry, drama and dance to convey their messages and help build community resilience.

The programme's objectives included: to train 20 adolescent girls as leaders to improve individual and community capacity; to develop human capacity to improve survival skills of vulnerable communities; to engage girls in risk reduction activities; to promote girl participants as role models for their communities particularly related to DRR; to establish a culture of 'community safety' and awareness through the active involvement of and information dissemination of adolescent girls; to encourage great participation of girls and vulnerable communities in DRR; and to develop positive relations between key players in DRR including coordinating entities, stakeholders, and empowered youth to help establish participatory-based community based disaster planning (Forbes-Biggs, 2008).

In 2012, CARE and the African Centre for Disaster Studies (ACDS) partnered for the implementation of a regional learning and pilot activity in Southern Africa based on the GIRRL Programme in Zambia, Zimbabwe, Malawi and Lesotho. Each country implemented an initial pilot of the GIRRL approach adapted to their local context. A detailed analysis of the GIRRL Programme is necessary to confirm its strengths, weaknesses and relevance as a practical application of GASBI and secondly, as compared to tenets within the Hyogo Framework for Action to determine its contributions to disaster risk reduction.

It has been presented that DRR policy and praxis in the Southern African region has not reached a stage where it is ready to recognise and prioritise the needs and contributions of distinctly vulnerable sub-groups such as adolescent girls. Traditionally, DRR policy has referred broadly to vulnerable people or communities and their need for protection, however, the specific acknowledgement of vulnerable groups such as adolescent girls are overlooked in both policy and practice. This study seeks to recognise the importance of social conditions and practices in defining disasters. GASBI,

like the model espoused in the GIRRL Programme, are interventions that will contribute to more effective disaster risk reduction policy and praxis in southern Africa.

3.10 Conclusions

The study sought to present a radical new protocol, the GASBI Model, for dealing with issues surrounding vulnerability, which are not adequately addressed but necessary for effective disaster risk reduction policy and praxis in southern African context. The GASBI endeavours to link theories regarding disaster risk, vulnerability, and social practice in young people, to the practical application of unique Gender Age intervention targeting the specific needs and opinions of vulnerable adolescent girls through socially targeted behaviour change. The study builds on the international recognition of the GIRRL Programme while seeking to document its contributions to youth and gender considerations in disaster risk reduction.

4.1 Article 3: Participatory Action Research (PAR) techniques applied to the Case Study of the GIRRL Programme in Ikageng, South Africa.

The article has been submitted to the Action Research Journal (November 2016) in accordance to Author guidelines *see Appendices7.3 for Action Research Journal Author Guidelines* and *7.4 for Proof of Submission in Action Research Journal*.

4.2 Abstract

This article seeks to document the use of Participatory Action Research (PAR) for engaging action research as the basis for identifying contextually relevant priorities for adolescent girls targeted within the micro-intervention known as the Girls in Risk Reduction Leadership (GIRRL) Programme. The PAR technique highlighted within the GIRRL Programme was the selected approach for integrating the widespread participation of community stakeholders and targeted adolescent girls. The approach highlights the critical importance of involving community-based prioritisation and locally directed strategies. PAR became the means to understand how adolescent girls (who are often seen as young victims of disasters) through minimising vulnerability and building resilience, can lead risk reduction oriented initiatives. Following the implementation of the PAR based intervention, adolescent girls decided to instigate vulnerability minimising strategies as the basis of their Action Plan. The research provides confirmation that girls can become involved in risk reduction initiatives by participating in strategic capacity building and information sharing based interventions. Girls utilise their perceptions of risk, recognised through active engagement, to shape Action Plan activities designed to reduce vulnerability and improve community resilience. This article articulates the PAR methodology, challenges and lessons learned from the GIRRL Programme intervention as presented through personal retrospect and reflection.

4.3 Keywords

Participatory Action Research (PAR), GIRRL Programme, Adolescent Girls, Disaster Risk Reduction, Vulnerability, South Africa

4.4 Introduction

The asymmetrical distribution of adverse effects associated with hazard impact on populations is stressed in the growing body of literature relating to conditions of vulnerability (Blaikie *et al.,* 2003).

Patterns of disaster devastation are reflected along lines of social division, particularly so with divisions based on gender, age, race, and socio-economic positioning (Cutter *et al.,* 2003; United Nations International Strategy for Disaster Reduction, 2008). Factors which define the sub-groupings such as roles within society, physical abilities, experience, access to resources, reflect the deficiencies which undermine the acquisition of skills necessary for self-protection and recovery from external stressors and shocks (Quarantelli, 1998; Thomalla *et al.,*2006). The inability to prepare for and comprehend the level of risk can inhibit one's ability to reduce vulnerability (Cannon, 2017).

This research supports the notion that capacity development facilitated through Participatory Action Research (PAR) can create the circumstances necessary to empower adolescent girls as a distinct sub-group vulnerable to hazards. The concept of empowerment is seen as enabling girls to help address the root causes of their vulnerability through a community-based PAR intervention. The study sought to report on the design and implementation of the GIRRL Programme as a PAR focused micro-intervention, wherein adolescent girls are involved as change agents in localised disaster risk reduction (DRR) initiatives.

4.5 Children as a vulnerable group in disasters

Children are often perceived as victims within the context of disasters (Jabry, 2002). These perceptions are often linked to socially exclusive practices which are derived from the failure to equally distribute power across society (Rashid & Shafie, 2013). These practices are evident within limits in areas such as access to resources, decision making/political participation, limited education, and lack of income. Wachtendorf, Brown and Nickle (2008:457) explain that "children are typically reliant on adults for financial and material resources, may have physical limitations based on age and may have limited ability to influence some decisions that impact their lives." Certain characteristics deemed as 'vulnerabilities', leave children exposed to the effects of hazards and they often endure disproportionate losses in disasters (Peek, 2008). Their needs are, however often overlooked in DRR activities (Institute for Development Studies, 2012; Lopez *et al.,* 2012). This oversight contributes to the increased risk faced by children and adolescents.

Children are rarely recognised as a distinct group in disasters in terms of data collection and reporting (Anderson, 2005), as is evident in the limited presence of such designated groupings in disaster-related data (Jabry, 2002). Specific age and gender disaggregated data with regards to

children in disasters is often absent (Sebellos *et al.*, 2011). These data are broadly referenced in work such as Anderson's (2005) figures wherein one in every three victims accounted for within disaster-related death tolls is a child, and of that number, one in four is a female child. Disaster specific data for children, particularly girl children, within the context of Africa, even more so in South Africa is rare at best (Plan International, 2003). In most instances data surrounding children and disasters in Africa are linked to conflict situations, slow onset disasters (such as droughts) and the impact of HIV/AIDS (Save the Children, 2005; Mbugua, 2007; Plan International, 2009; Babugara *et al.,* 2010).

4.6 Children in DRR

The concept of 'children as victims' fails to acknowledge the potential of this group to develop the skills needed to assist in preparation activities designed towards reducing and guarding against threats to their welfare (Back, Camerson, & Tanner, 2009; Institute for Development Studies, 2012; Tanner, 2010). Wachtendorf *et al.* (2008) recognise misperceptions that children are individually 'incapable' of making decisions and taking action to protect their lives. However, with information as empowerment, the provision of guidance, opportunities to make effective decisions, and the ability to communicate their knowledge to the wider community – children, specifically adolescent girls, can help develop and share an awareness of their needs, and provide new perspectives in the context of DRR activities (United Nations Population Fund, 2007a; 2007b; Sebellos *et al.*, 2011; United Nations Children's Fund, 2011a;). Such social, psychological and physical needs can and should be integrated into community-based disaster risk reduction (CBDRR) activities (Jabry, 2002; Mitchell *et al.,*2008; Peek, 2008). With much criticism from scholars and the international community regarding failures to fully integrate women and children into DRR (Jabry, 2002; United Nations Children's Fund, 2011a), there is a well-warranted need to extrapolate the perspectives of this group and to examine their potential contributions. This can be achieved through creating an enabling environment and encouraging empowerment to help understand their value in reducing disaster risk which is the basis for engaging the PAR technique.

4.7 PAR for Engaging Children in DRR

The approach to PAR highlighted in this study, seeks to engage participants and researchers in working together to explore and understand conditions which reinforce the vulnerability of adolescent girls in order to create a change for the better (Kindon *et al.,* 2007). The method endeavours to have

the subjects of the study examine their respective life realities as the basis for their self-directed instigation of the change necessary to improve, in this case, their resilience (McTaggart, 1997; McIntyre, 2008). Krimerman (2001:63) offers PAR as research that benefits the excluded, impoverished, marginalised, oppressed, and so forth, by increasing their self-esteem, their participation in institutional decision-making, and their access to political influence or economic resources. Fals-Borda and Rahman (1991:13) contends "those who are currently poor and oppressed will progressively transform their environment by their own praxis. In this process, others may play a catalytic or supportive role but will not dominate". In this study, the researcher and stakeholders took a supporting position while the participants led the action. The action research process therefore involves cooperative enquiry to examine existing practices and reflect on and improve strategies, skills or techniques in order to improve life conditions. In this instance, adolescent girls engaged in cooperative enquiry to help understand how they can use information to make better decisions and how new skills can help reduce their vulnerability and build resilience.

The approach has been traditionally used within the fields of health and education to engage child participants, however, it has recently been promoted in the context of developing countries as means to understand issues that children face and their interpretation of these circumstances (Molina *et al.,* 2010). The initial concern regarding children is the fact that the discussions may lead to topics such as life, welfare and suffering which could draw negative feelings from participants. Tanner and Seballos (2012) suggest that empowerment against negative situations can be reaffirmed by the combination of factors such as two-way dialogue and capacity building to minimise feelings of helplessness. The GIRRL Programme micro-intervention endeavoured to use both techniques to avoid creating negativity among participants.

4.8 The GIRRL Programme

The GIRRL Programme is a research micro-intervention aimed at helping the participants (adolescent girls[1]) to understand the links between aspects such as health and welfare and their contribution to increased vulnerability (*See Section 3.9 The GIRRL Programme*). The acronym "*GIRRL*" was rooted in the focus on female children and for their prioritisation in the DRR. It was necessary for girls to appreciate external factors that contribute to vulnerability so that they could

1 Adolescence, based on definition provided by Convention on the Rights of the Child (United Nations Children's Fund, 1991)

understand the context and purpose of DRR initiatives. The intervention sought to use capacity building to convey information, promote attitude change and adopt actions that reduce individual vulnerability within the context of disadvantaged adolescent girls using the Participatory Action Research (PAR) technique (Swarup *et al.,* 2011). The PAR method was instigated from the initial stages of conducting the training sessions to the hosting and implementing of the action plan. The programme was implemented in South Africa within the Ikageng Township, Tlokwe Local Municipality (North-West Province).

4.8.1 Study Area

Ikageng is a residential area designated as a 'black African township' serving as a remnant of apartheid-era racial segregation. The area is sub-divided into communities known as 'extensions'. However, the growth of families and urbanisation has forced unplanned expansion onto the peripheral land. This created the '*Sonderwater'* extension, comprised of makeshift galvanised steel dwellings. Lack of legitimacy has prevented access to electricity and adequate piped water (Tlokwe City Council, 2011). The spread of disease (HIV/AIDS/STDs), abuse of drugs, influx of crime, prostitution, physical and sexual violence, prevalence of teenage pregnancy, increased school drop-out rates, and the emergence of a new generation of child-headed families are present in this settlement (Gelb, 2003; Van Riet *et al.,* 2009). To complicate the situation, this area is prone to hazards, including sinkhole formation, severe weather events, shack and veld fires (Van Riet, 2009). These conditions, provide significant challenges for residents and contribute to the vulnerability of adolescent girls as a distinct group (Maartens, 2011).

4.8.2 Sample population

The selection was based on pre-defined criteria, including age, gender, socio-economic background and place of residence. The sample population was informed by vulnerability-based research (Cutter *et al*., 2003; Plan International, 2003), which provided insight into specific characteristics that undermined resilience or contributed to the increased susceptibility of adolescent girls. The group was targeted based on the recognition that this sub-section of the community was characterised by limited access to quality education, property, monetary assets as well as being excluded from social, economic and political decision-making processes. These factors increase this group's vulnerability and are contributing factors to disaster risk (Blaikie *et al.,* 2003; Füssel, 2007). The research sample comprised of twenty-one (n=21) females between the ages of 13 to 18 years from Sonderwater.

4.9 PAR Phases

The typical phases of PAR emphasise those recurrent and alternating stages of *Planning, Action, Reflection and Evaluation* (Pain *et al.,* 2011:3). The GIRRL Programme, reflects these integral stages as seen in activities such as building relationships, making collaborative decisions, defining roles and responsibilities, working together to collect data, enabling participation of all members, defining future action plans, reflecting on the process and providing feedback.

PAR served as the basis for informing the direction of the sessions based on the experiences and input of the participants to promote the desired capacity learning and encourage the pro-active behaviours necessary to help reduce the vulnerability of adolescent girls. Table 4-1 illustrates the application of the PAR phases in the GIRRL Programme.

Table 4-1: The PAR Phases Applied to the GIRRL Programme

PAR PHASE		LEAD PERSON(S)	ACTIVITIES
PHASE ONE	PLANNING	Researcher	Identify key criteria for GIRRL Participants.
		Researcher	Identify target community.
		Researcher	Identify central persons as potential gatekeepers/stakeholders.
	ACTION	Researchers/ Gatekeepers	Invite central persons to sit on stakeholder committee.
		Researcher	Initiate stakeholder meetings and identify key roles and responsibilities.
		Gatekeepers/ Stakeholders	Stakeholders to provide insight into the selected community, the roles of their organisations, as well as informing decision making surrounding issues such as entry to the community, the selection of the target school, factors contributing to the vulnerability of girls, cultural influences and other considerations.
		Researcher/ Select Stakeholders (School Officials)	Identify and invite participants and parents/guardians.
		Stakeholders	Collaboratively suggest central issues and topics to be covered in training sessions.

		Researcher	Provide an overview of the research process embodied in the intervention and the tools available to Parents/Guardians.
		Researcher/ Parents/ Guardians/ Participants/ Stakeholders	Build relationships between parents/guardians, stakeholders and participants.
	REFLECTION	Researcher	Reflect on the design of the GIRRL Programme intervention, the ethical considerations and accountability of key persons.
		Participants	On the research design embodied in the GIRRL Programme intervention as well as their roles and responsibilities through the use of journaling.
PHASE TWO	ACTION	Researcher/ Stakeholders	Hosting of stakeholder meetings to review the stakeholder's contributions and understanding of the needs of the participants.
		Participants	Give input into the content of sessions and drive the discussions through their experiences.
		Researcher/ Stakeholders	Present training sessions using participatory tools for delivering content.
		Participants	Monitor the rules and code of conduct.
	REFLECTION	Participants	What lessons have been learned on each topic? Review and reflect on the objectives of the Programme and determine if they truly reflect the needs of the adolescent girls. Should additional sessions be held to cover new issues that have arisen in the discussion? Does additional expertise need to be recruited to provide further guidance to participate? *Through Journaling
PHASE THREE	ACTION	Participants	Brainstorm the community event including the issues, venue, dates, guests (targets of the message being shared)
		Participants/ Researcher/ Stakeholders	Participants share their feedback on ideas with researchers and stakeholders.
		Participants	Analyse the results of the brainstorming session in order to identify and prioritise the focus of the community event.
		Participants	Identify roles and responsibilities for implementing the community event.
		Participants	Implement the community event as the First Stage of the Action Plan.
	REFLECTION	Participants	Does the content of the community event reflect the most pressing needs in your community? Will your presentations not only inform but can they

			also provide proactive ideas to respond to the issues?
		Researcher	Revisit the focal issues identified by the stakeholders and compare them to the priorities suggested by the participants in the Programme.
		Participants	Are the topics relevant and are you targeting the correct members of the community in order to get your message across most effectively.
		Participants	How can we incorporate the capacities developed during the GIRRL Programme into practical experiences, embodied in the Action Plan, which would enrich our community?
		Participants	Reflect on how the participants have worked together and if it was successful according to them.
		Participants	Reflect on how training and community events can guide the formation of the Action Plan.
PHASE FOUR	ACTION	Participants/ Stakeholders	Instigate the Second Stage of the Action Plan wherein girls take on leadership roles in partnership with local stakeholders to help improve community resilience through disseminating information.
	REFLECTION	Stakeholders/ Researchers/ Participants	Review the activities conducted during the community event, community information dissemination and training sessions and understand how they helped to reduce the vulnerability of the participants and build community resilience. Determined what skills could be added or how the Programme could be modified to be address the needs of the girls or the community in the future. How could the participants themselves further add to the experiences gained in the Programme?
	EVALUATION	Participants	Draw conclusions regarding the Programme and its objectives.
		Stakeholders/ Researchers/ Participants	Determine key lessons learnt from the Programme from all perspectives.
		Stakeholders/ Researchers/ Participants	Collectively identify opportunities for sustainability and collaboration (Action Plan)
		Researcher	Based on the recommendations provided by the Participants, determine new content to be included in future interventions.

The first phase involved the researcher initiating the planning activities which included identifying key criteria for selecting participants, determining the target community, establishing contact with members of the community, including gatekeepers (elders/political councillors/ward representatives), for permission to introduce the GIRRL intervention into the community. The initial group of gatekeepers were gathered to establish entry to the community, to develop familiarity with its dynamics, and to determine the best methods for gaining support from community members (Sengendo *et al.,* 2006).

The first *Action Phase* saw the research team and the initial key stakeholders acting together to invite community members such as health workers, gender/youth representatives, school officials, the Tlokwe Disaster Management Coordinator, the Fire Department (Public Safety), the Department of Health and North-West University (African Centre for Disaster Studies, School of Nursing, Communication Studies, Psycho-Social Sciences and Nutrition Departments). The *Action Phase* hosted fifteen theme-based meetings and three general meetings with stakeholders. These meetings were scheduled prior to and concurrently with the implementation of the intervention (January to November 2008). In accordance with the sentiment of Sengendo *et al.* (2006), the stakeholders serve at this stage to assist in identifying underlying concerns, highlighting the potential school site and gathering specific localised data through dialogue on social conditions. The initial gatekeepers identified Boit Shoko High School as the most relevant site for the project based on the participant criteria. Researchers and stakeholders collectively identified the adolescent girls to engage as participants in the programme based on selection criteria. Interviews were conducted with each girl candidate and they were informed about the programme. Parents were invited to discuss the programme with the researchers. Many parents eagerly accepted the programme as an opportunity for their daughters to develop. Given ethical considerations for participants[2], and in light of poor literacy levels and language barriers parents/ guardians were invited to a formal meeting wherein the intervention was explained in detail both in English and Setswana. The parents/guardians were invited to provide informed consent. The participants' themselves were also formally invited to take part in the programme following the provision of parental consent. This step was critical to ensure that the intervention had the support of the parents/guardians. It was also the first step in validating their views and encouraging their participation in decision-making. All data

2 According to Strode, Slack & Essack (2010) at of time of publication, South Africa did not recognise the use of the legal requirements for parental consent for persons under age 18 years. However, in accordance with international protocols for dealing with minors in research, standard parental or guardian consent was sought.

gathered would remain anonymous and the parents, guardians and participants were assured that no personal information would be revealed.

During the action phase, girl participants were also involved in defining the final list of objectives that they felt were necessary for the intervention. The group of participants agreed on the following objectives:

1. To enhance the survival skills of vulnerable girls living in Sonderwater over a period of nine months;
2. To provide specific information and training to twenty girls (13-18 years), for building individual and community capacity;
3. To engage girls in activities for DRR and reducing vulnerability;
4. To encourage girls to adopt a leadership position and act as role models for their community;
5. To help establish a culture of community safety through the creation of empowered and informed resource persons;
6. To foster an appreciation of the positive contributions of communities in vulnerability reduction and DRR activities;
7. To develop positive relationships between local disaster coordinating entities, community stakeholders and empowered youth to develop effective local community-based disaster risk management plans.

The reflection phase presented opportunities for the researcher to review the research design, ethical considerations as well as issues surrounding accountability. Participants during this phase were invited to review the programme itself, the implications on their lives, and their new roles. The participants used journaling as means of personal reflection and it also served to anonymously document the process for the researchers.

The recommendations were allocated under relevant themes, which formed the session topics for the intervention. Sessions lasted for two hours each and were held twice weekly (after school) on days decided by the participants. Training topics were devised based on the collaborated input of PAR and were focused on team building (two sessions); decision-making (two sessions); physical health (two sessions); mental health (two sessions); sexual health (two sessions); peer education (two sessions); first aid (two sessions); fire safety (one session); community-based disaster risk

assessment (two sessions) and effective communication and leadership (two sessions). The specialised topics including first aid, fire safety, community-based disaster risk assessment and communication were included to help girls to develop practical capacities that could help girls assist in their communities (Forbes-Biggs & Maartens, 2012:240).

Facilitators who initiated the pro-active sessions were asked to serve on the stakeholder committee. They were selected from the locality area and were in possession of the following characteristics: an interest in community involvement; specialisation in the respective areas of presentation; familiar characteristics (young age, amiable personality, racial and cultural similarities as necessary); and had some experience in participatory learning.

Although stakeholders engaging in PAR identified topics in the first *Action Phase*, *Action Phase two* highlighted the leading role the girls were given in the programme. They identified the social constraints that contributed to the vulnerability of adolescent girls. These issues included: participant 1 reflected that there was a lack of encouragement for growth and achievement in saying that "no support to help us", participant 2 explained that there were "not many women role models", participant 3 said "we must deal with bullying and too many girls getting pregnant" and participant 4 indicated "many girls depend on grant and men for money." Participant 5 suggested that "girls don't understand that we are responsible for what we do" indicating a lack of understanding of the consequences of personal actions and behaviours and finally, participant 6 presented that "girls that are positive gets pushed out" which highlights the shunning of those that are suspected or confirmed to have HIV/AIDS.

The participants were involved in developing skills such as active problem solving which were used to help create viable solutions for the issues that contributed to their vulnerability. The output resulted in recommendations for what girls can do and where they need assistance/support:

> Participant A: "We want to grow and be better girls in our community – we must become positive and strong leaders";
>
> Participant B: "We must learn from our women leaders";
>
> Participant C: "We have to work together as a team";

Participant D: “Must know about how to get money for school – we need help”;

Participant E: “There needs to be more information for us – what must we do if we get raped and if we get abused and get pregnant – what can we do?”;

Participant F: “How can we protect ourselves from HIV? We hear too many stories on how people have caught it and we need to know what is true.”

Participant G: “Providing after-school sessions” (intervention).

Emphasis was placed on how the material should be presented for the greatest impact and to help retain the interest of the target group. The sessions were also designed in the nature of PAR to engage and stimulate interactive participation. One of the first activities was having the girls establish a code of rules for the sessions. The participants identified the following:

“No gossip”;

“Love one another”;

“No eavesdropping”;

“Confidentiality”;

“Punctuality”;

“Respect each other”;

“Be able to help one another and share stories”;

“No boys”.

Questions, comments, debates, disagreements and personal recollection were encouraged. A box served as a means for submitted anonymous questions and comments that would be addressed by facilitators in the following session.

The GIRRL participants identified “shack fires, domestic violence, alcohol/drug abuse, teen pregnancy HIV/AIDS/STIs, rape and poverty,” as some of the real and pressing threats to their physical welfare. Participants presented situations that they face every day as justification for their selection including:

> Participant 1: “My younger brother hit over the stove (primus)... and I grabbed it up to stop the fire my hand got burnt…later that day we went to the clinic.” (This occurred the week before the first safety session)
>
> Participant 2: “My father is a really bad drinker, he is so addicted to alcohol and that makes him to fight us at home.”
>
> Participant 3: “I went out with friends and dranked a lot (sic) and lost my cell phone and I was charged for public indicent (sic).”
>
> Participant 4: “My boyfriend, he wants us to have a baby and that what I don’t even want to do.”

Through the discussion, participants began to identify the links between threats such as adolescents struggling in poverty and falling pregnant as a means to acquire government child support grants and unintentionally expose themselves to HIV/AIDS/STDs. Following the completion of the capacity building sessions, participants were asked to brainstorm how they could use their skills and knowledge, within their locality. The ‘Action Plan’ embodied the activities that participants would instigate based on their perceptions of susceptibility in the community.

The participants hosted a community awareness event as the initial activity in their *Action Plan*. The girls determined that the event needed to focus on “HIV/AIDS, poverty, domestic/child/alcohol abuse and teenage pregnancy*”* as the central factors which contributed to the vulnerability of community members. The girls justified each of these focal points as necessary because they independently and collaboratively undermined the resilience of families and the wider community. One participant presented her lived experience which highlighted the complications associated the impacts of AIDS (orphaned children), the cycle of poverty and dependency on government support grants, which is common scenario in this community:

> “I live with my grandmother, 6 small children. We live with grants. My grandmother goes and do (sic) debts for us to eat and get clothes. When the money (grant) come, it ends by paying debts. 2 (sic) children are orphans at home. I have my mother, she is a domestic worker but when she gets income it ends at her debts. So, she does not earn enough income.”

The *Reflection Phase* provided an opportunity to review activities conducted during the community event and training sessions in order to understand how the experience has helped to address the

vulnerability. It helped additionally to determine what skills could be added or how the Programme could be modified to address needs of girls.

The fourth phase of the *Action Plan* was based on the voluntary involvement of participants in community based activities. The activities were based on needs identified by the participants. The Public Safety department collaborated with participants as 'youth representatives' to integrate girls into a schools' awareness programme and Fire Safety Awareness Competition. The Community Health Department enabled participants to integrate into the Ikageng Youth Centre where they provided peer guidance as well as hosting activities focused on team building, decision-making, safe sexual practices, and drug avoidance. These *Action Plan* activities were implemented over a period of six months following the community event. Each activity was revised and reflected on by the girls. They were modified if found to be less than adequate or in need of additional content or different focus based on their audience.

The final *Reflection Phase* allowed participants, stakeholders and researchers to collectively review the programme in its entirety. The *Evaluation Phase*, which followed, was the period used for the summation of lessons learned and conclusions. Participants were asked to describe what they drew from their role in the project and their responses included:

> Participant A: "It taught us that we must solve problems so that we will succeed and come up with innovations when we solve problems".
>
> Participant B: "It gave us that strength to be a good person, believe in yourself, you don't have to give up easily- have that perseverance and be (a) hard worker". (sic)
>
> Participant C: "It encouraged youth especially us girls to be good mothers in future and it taught us to be independent with little things like recycling and what you have to do is standing (sic) up for yourself".
>
> Participant D: "It help young girls to build their self-esteem". (sic)
>
> Participant E: "Helping girls (sic) how you must protect yourself from different problems that surround you".
>
> Participant F: "It's all about learning how to respect yourself and to become a good leader".

The girls reflected that they are able to express their empowerment in a number of different ways including educating others, being confident, improving the lives of others, facing and overcoming challenges, saving lives and becoming leaders in the community.

> Participant 1: “I can now stand in front of people spreading information”.
>
> Participant 2: “Now I have self-confidence, strength and power”.
>
> Participant 3: “GIRRL have (sic) given us a chance to experience and make a difference in people’s live (sic)”.
>
> Participant 4: “Helping young girls to understand, learn about their risk and helping each other”.
>
> Participant 5: “We are encouraged in standing up for our selfs (sic) in facing the challenges through our lives”.
>
> Participant 6: “It has empowered, given us as future leaders and communities the skills to bravely face life to overcome the life challenges and to save life for many people (sic)”.

4.10 Challenges to PAR in Girl-Led Micro Interventions

In order to gain legitimacy, stakeholders within critical sectors needed to be involved in the programme. There were instances where these stakeholders, despite being introduced to the intervention as a PAR centred approach, had to be reminded to respect the views and opinions of the participants. It took significant effort to get some stakeholders to grasp the concept that young people could make viable contributions to society. The instincts of many stakeholders were to provide protection or lead decision making in the ‘best interest’ of the girls rather than to allow adolescent girls to make ‘informed’ decisions. The underpinnings of the PAR method challenged the traditional expectations of adults in black African societies who would rather assume the role of decision-makers for children. One of the greatest issues for PAR in girl-led micro-interventions is challenging the idea of the need to balance the protection of minors verses autonomy.

Despite the full application of the PAR technique wherein participants led decision-making, discussions and action, it was of interest to note that they still felt that the researcher played a large role. This may have been linked to the fact that stakeholders, community members and parents associated the researcher with the coordination of the project, rather than seeing the girls in a leading position. This may be linked to the strong patriarchal culture that recognises advanced age as a consideration for respect and leadership.

4.11 Discussions and Lessons Learned

The PAR technique provided the opportunity for a bottom-up approach which gave control to the participants rather than in traditional extractive studies where researchers exclusively drive the process (Chambers, 1994; Blaikie *et al.,* 2003). The GIRRL Programme targeting adolescent girls as a vulnerable population utilises the PAR process to help them engage in effective decision making aimed at reducing vulnerability and building broader community resilience. Girl participants provided accounts of their experiences living in Sonderwater and their susceptibility which helped to create the foundations for their understanding.

Participants were engaged in discovering solutions to central issues and local problems using interactive techniques, including the use of focus groups, role playing, debating, drama, group activities, problem trees and hazard prioritisation. The emphasis on inclusive engagement ensured that adolescent girls were involved throughout the programme and mitigated common practices that are often at the root of vulnerability. There was a need to have relevant, age-appropriate information presented in these areas with opportunities to ask questions and seek clarification as necessary and available within the confines of a safe environment. The adolescent girls expressed their will by identifying strategies to help reduce their vulnerability in the form of their *'Action Plan'* and presented it.

The use of capacity development in areas that reflect direct threats to individual welfare have helped to cast the foundations for introducing broader topics and new skills (e.g. peer-education training and first-aid certification). The overall findings reinforce the need to allow adolescent girls to lead the process by providing insight and personal perspective (or risk perception). The most fundamental acknowledgement by the participants was the collective recognition that they could not help people reduce disaster risk until they helped them face their immediate problems (extensive risk). The PAR process helped participants understand that vulnerability created by conditions faced by the community and had to be accepted before risk reduction initiatives could have any significant meaning.

The PAR technique applied to the GIRRL Intervention has enabled the stakeholders and communities to witness that young girls do possess the ability to contribute to effective decision-making not as subordinates but as informed leaders and active contributors. The integrated planning and implementation of the project, in collaboration with a diverse range of stakeholders and facilitators, has helped to reaffirm the need for greater integration of adolescents in DRR activities across multiple sectors. The uniqueness of this approach has helped the multidisciplinary nature of vulnerability and disaster risk. This challenges traditional approaches to risk reduction which focus exclusively on hazard related awareness and activities. These fail to acknowledge the social roots of vulnerability as a factor increasing disaster risk as well as looking at engagement, information and empowerment as means for building broader individual and community resilience. This sentiment is recognised in the work of Plan International (2013:113) as:

> Training on its own is not enough: it must go along with much difficult task of tackling prejudice and discrimination against girls. But the best way of ensuring that those in charge of disasters know what adolescent girls need is very clear: built trust, give the skills and confidence to speak, and create spaces where they can speak more openly about what is affecting them.

4.12 Conclusions and Recommendations

This PAR based study provided an opportunity wherein adolescent girls were able to become part of a team, building confidence and encouraging positive inner change. It created opportunities to become involved with various sectors, which further strengthened community trust and helped establish new relationships between participants, stakeholders and local agencies through the use of PAR techniques. Despite the limitations associated with the marginalisation of black South African adolescent girls, capacity building derived from the PAR based intervention in this context has served as a means of improving critical skills, thus enabling the adaptation of leadership roles in community-based DRR initiatives. Efforts to develop skills and understanding at this critical period of life development have been influential in reshaping how this vulnerable group perceive hazardous threats and equally significant is how they are regarded within the context of their local social structure.

This article has presented the purpose of the GIRRL Programme as a participatory research and capacity building programme to help engage adolescent girls in expanding their skills for leading DRR efforts. The experiences gained within the implementation of the project revealed greater need for the appreciation of risk perception and vulnerability, as well as how information and education,

through capacity building, prove to be effective tools for empowerment and building confidence, thus strengthening their abilities to take on leading roles in DRR.

Finally, recommendations from the study focused on the value of replication in areas or contexts facing similar social circumstances for maximum impact. These findings served to present that adolescent girls in the context of the study, have adopted important leadership positions in DRR and as such, these efforts are contributing to the building of greater community resilience.

4.13 Acknowledgements

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5.1 Article 4: The GIRRL Programme: A Human Rights Based Approach to Disaster Risk Reduction Intervention in Southern Africa

This article has been submitted to the International Journal for Disaster Risk Reduction on November 30 2016. The article was submitted in accordance to the author guidelines in *Appendix 7.5 International Journal for Disaster Risk Reduction Author's Guide* and the submission confirmation noted in *Appendix 7.6 Proof of Submission to International Journal of Disaster Risk Reduction*. The article was published April 2017.

5.2 Abstract

Gender equality and female empowerment face many challenges within the Southern Africa region. Failure to ensure equality across all social groups creates pockets of people that face differential access to power and resources. This differential access can impede people's ability to adequately prepare for rebound from adversity. The paper highlights the importance of human rights as a means for promoting the equality and reducing discriminatory practices to limit access to resources and power. The Girls in Risk Reduction Leadership (GIRRL) Programme was developed in response to the need to address the unequal social conditions which created and reinforced their vulnerability. A multiple case study approach was engaged utilising interviews, focus groups and key document reviews. The research used the Human Rights Based Approach (HRBA) to present the value of a contributor to addressing disaster risk in Southern Africa.

5.3 Introduction and Overview of Problem

Southern Africa faces many challenges related to gender equality and female empowerment (United Nations Population Fund, 2014). As a result of the discrimination that derives from this inequality, disadvantaged girls living in the Southern Africa region are subsequently vulnerable to natural disaster related risk (Plan International, 2013). This is particularly true for adolescent girls who face vulnerability from the perspective of being female as well as due to their youth (Plan International, 2013) (*Also see Section 4.5 Children as a Vulnerable Group in Disasters*). The vulnerability that inequality creates is evident in discriminatory practices which leave women and children in scenarios where they often lack resources such as information, money or land, and have limited social power (Anderson, 2005). These limitations can also impair their ability to fully appreciate and understand risk, and to effectively prepare for and recover from shocks and stressors (Cutter *et al.,*2003; Cannon 2017).

The foundation for inequality is rooted in societies' failure to realise basic human rights and the discriminatory practices which arise from this inequality foster this increased risk (Da Costa & Pospieszna, 2014). The Universal Declaration of Human Rights was developed to promote equality and to establish and ensure that all persons have inalienable rights which include protection from harm and involvement in decision making (United Nations General Assembly, 1948). The failure to administer and acknowledge basic human rights uniformly creates marginalised and vulnerable groups that lack sufficient protection and face discrimination and exclusion.

This realisation is significant in light of the growing threat of climate related hazards in the region posed by climate change. Southern Africa is expected to experience increased exposure to rainfall fluctuations reflected in drought and flood hazards (Eriksen *et al.,*2008). This exposure threat is compounded by the fact that in the region, 15 countries have over half of the population under age 18 years, of which nearly half are girls (United Nations Population Fund, 2014: 3). As a result, a large portion of the population of Southern Africa, particularly in the form of girl children or adolescents, face added disaster related risk based on vulnerability derived from exclusionary and discriminatory social practices in addition to increased hazard threats.

In response to this realisation, an intervention known as the GIRRL Programme was developed in 2007 through African Centre for Disaster Studies as North-West University in South Africa as an approach to reducing the risk faced by marginalised adolescent girls in Southern Africa. In time, the programme evolved and was applied to four (4) additional countries in Southern Africa region. The study endeavours to examine how the GIRRL Programme as an intervention, utilises the Human Rights Based Approach to build resilience as a means of reducing the disaster risk directed towards adolescent girls in Southern Africa.

5.4 The Interface Between Human Rights and Disasters

Human rights serve as internationally accepted guidelines for establishing entitlements for all humans to ensure dignity, equality and justice (United Nations General Assembly, 1948). Human rights are recognised as being ''inalienable, integral and indivisible'' and serve as a baseline for the treatment of all persons, regardless of factors such as race, nationality, religion, gender, age or ability (United Nations General Assembly, 1948). Human rights as a concept can be classified into three primary categories including: Civil and political rights; environmental, cultural and development

rights; and economic and social rights (The Brookings Institution, 2008:4; Wellman, 2000).These include, among others, the universal entitlement of rights regardless of distinction of any kind such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status (Article 2); everyone has the right to life, liberty and security of person (Article 3); everyone has the right to freedom of opinion and expression; everyone has the right to freedom of opinion and expression (Article 19) (United Nations General Assembly,1948). Universal human rights are often expressed and guaranteed by law in the forms of treaties, customary international law, general principles and other sources of international law (United Nations General Assembly, 1948). It is considered the duty of individual states to honour and uphold these rights regardless of their economic, political and cultural systems as confirmed in the 1993 Vienna World Conference on Human Rights (The World Conference on Human Rights, 1993).

The ability to maintain, honour and uphold human rights can be difficult for some countries even in the best of times. Adversity, particularly in the form of disasters, creates an upheaval of the normal functioning of society and can challenge and potentially undermine these rights. By definition, disasters refer to "a sudden, calamitous event that seriously disrupts the functioning of the community or society and causes human, material and economic or environment losses that exceed the communities' or society's ability to cope using its own resources" (United Nations International Strategy for Disaster Reduction Secretariat, 2009:9). The disruption caused can further undermine human rights by further reinforcing existing inequalities in affected communities (Bolin, 1998). Disasters also magnify social inequalities and further creating disadvantages for those already vulnerable and marginalised (Wisner & Luce, 1993). Vulnerability in this context refers to the characteristics and circumstances of a community, system or asset that makes it susceptible to the damaging effects of a hazard (United Nations International Strategy for Disaster Reduction Secretariat, 2009:30). Vulnerable persons face greater disaster related risk (Blaikie *et al.,* 2003). Social exclusion and discriminating as a driving force of vulnerability, is indicative of limits or failure to acknowledge human rights (Mathieson, 2008). Exclusionary practices further reinforce vulnerability by limiting access to employment, information or skills (Rashid, 2013). These limitations can inhibit persons from gaining education, having access to funds necessary for living in safer areas or in stronger structures and from being actively be involved in making informed decisions regarding their welfare (Department for Foreign International Development, 2005).

The Sendai Conference for Disaster Risk Reduction recognises the importance protecting vulnerable groups by ensuring that groups that are often on the periphery of decision making, social participation

and power ownership are included and prioritised within the guidance drafts derived from the 2015 Sendai Conference for Disaster Risk Reduction (United Nations Office for Disaster Risk Reduction, 2015). The document explicitly promotes the integration of factors such gender, age, disability and cultural perspectives which are common lines for discrimination and exclusion in social contexts but necessary for creating comprehensive and representative disaster risk reduction strategies (United Nations Office for Disaster Risk Reduction, 2015). Disaster risk reduction refers to:

> The concept and practice of reducing disaster risk through systematic efforts to analyses and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events(United Nations International Strategy for Disaster Reduction Secretariat, 2009:10-11).

The reduction of disaster risk aims to ensure that exposure is minimised, vulnerability reduced and capacities for resilience strengthened in ways that address risk itself (United Nations International Strategy for Disaster Reduction Secretariat, 2009:8). DRR acknowledges the need to manage differential levels of vulnerability and exposure and the need to empower vulnerable groups to participate in decision-making and implementation as a means of supporting their inclusion (Lovell & Le Masson, 2014:2). The Operational Guidelines and Field Manual on Human Rights Protection in Situations of Natural Disasters recognises the need to specifically address the special rights and needs of vulnerable groups, including internally displaced persons, women, children, elderly, single-headed households, persons with disabilities or HIV/AIDS, ethnic minorities and indigenous people who so often are the victims of prejudice and fail to have equal rights allocated to them in many societies (The Brookings Institution, 2008:4). The importance of honouring and protecting human rights as a critical necessity in reducing disaster risk has been recognised by the United Nations.

This study in particular will examine human rights and resilience in the context of risk reduction. This formal recognition acknowledges the importance of human rights in ensuring equality and serving as the foundation necessary for participation, self-protection and empowerment as a requisite for building individual resilience. Resilience, though often debated, refers to in this instance, the “capacity of a system, community or society potentially exposed to hazards to adapt by resisting or changing in order to reach of maintain an acceptable level of functioning structures” (United Nations International Strategy for Disaster Reduction Secretariat, 2009:24). However, for greater clarity, this article will use the more specific definition provided by Peek (2008:20citing Manyena, 2006; Paton, 2006) who refers to resilience as the ability of people and communities to survive, adapt to and recover from loss and disruption. Efforts to reduce this risk must take the root causes of their vulnerability in order to build greater resilience to disasters scenarios. The article will examine how

the promotion of human rights is utilised by the GIRRL Programme as a means of reducing disaster risk.

5.5 Human Rights Based Approach

The Human Rights Based Approach (HRBA) has been defined by the United Nations as a "conceptual framework for the process of human development that is normatively based on international human rights standards and operationally directed to promoting and protecting human rights" (Office of the High Commissioner for Human Rights, 2011:1). This approach is aimed at recognising people as rights-holders and as key actors in their own development. It examines the inequality that is at the root of development problems and vulnerability and makes efforts to positively alleviate discrimination and unequal balances of power that undermines advances in development (Jonsson, 2003).

The HRBA is used to help improve the social position of marginalised groups through inclusion and other efforts to reduce inequality. Originally presented within the development sphere, to deal with issues surrounding inequalities in that field such as unequal power allocations (Cornwall & Nyamu Musembi, 2006), the HRBA has exceeded the parameters of development forums and has been applied to matters surrounding disaster risk reduction and climate change (Yamin *et al*., 2005). Although not a specific protocol, the HRBA is a directive to acknowledge the inclusion of human right and the awareness of their possible violations. It analyses inequality, vulnerabilities and obligations in order to redress unjust practices, exclusions and unfair power allocations which undermine development (Office of the High Commissioner for Human Rights, 2011). It draws reference to the need to include and attend to human rights and possible breeches of these rights. The HRBA emphasises that those persons deemed most vulnerable should not be excluded and it reminds communities that all individuals have rights and must be allocated opportunity to participate in and make contributions to the decision making process, especially in areas directly related to their welfare and wellbeing (Da Costa & Pospieszna, 2014:9).

The United Nations has acknowledged that the HBRA should be used to guide disaster risk reduction and disaster risk management as praxis (Innocenti, 2009). It recognises that HRBA has the potential to contribute to the reduction of disaster risk by reducing inequality as a causal and driving factor of vulnerability. As such, the HRBA serves as the conceptual framework for evaluation, improving

practice and ensuring that decision-making is more reasonable, objective and transparent (Da Costa, 2014:9). In this case study, the HRBA was used as grounds for analysing and evaluating the programme under investigation, the GIRRL Programme, in the context of the disaster risk reduction.

5.6 The GIRRL Programme

The GIRRL Programme was designed as an empowerment based intervention targeting vulnerable adolescent girls in Southern Africa (Forbes-Biggs & Maartens, 2012). The programme model was based on the idea of engaging and empowering the poor and marginalised adolescent girls through participatory capacity building sessions focused on providing critical information and skills relevant to improving their resilience to disaster risk (*see Section 1.3 The GIRRL Programme*).

In 2007, the initial GIRRL Programme was implemented under funding from the Provention Consortium Research and Action Grants for Young Researchers (Forbes-Biggs, 2008). Within a 12 month period, the project was implemented in the Ikageng township in North-West Province of South Africa (United Nations International Strategy for Disaster Reduction, 2008). Following initial support of the Dr. Kenneth Kaunda District Municipality (in which Ikageng Township is located), the District Disaster Risk Management Centre funded the further implementation of similar projects in three other sites. This was undertaken over a three-year period in Tshweleleng, Tching, and Kanana townships in North West Province, South Africa. The African Centre for Disaster Studies (ACDS) at North-West University (NWU) as the affiliated organisation initiated the change from 'project' to 'programme' status to reflect the long-term commitment to continue the approach.

In 2011, CARE (Southern Africa Regional Management Unit) helped to "adapt the pilot approach intervention in South Africa to other country contexts in targeted Southern Africa nations, including Lesotho, Malawi, Zambia and Zimbabwe" (South Africa would be involved for data collection) (United Nations International Strategy for Disaster Reduction, 2015). Funding was provided by the United States Agency for International Development/Office of Foreign Disaster Assistance (OFDA) directly through the Regional GIRRL Programme grant for the primary multisite coordination. Various sub-grants were issued to the country offices of CARE for the local implementation of the GIRRL approach within broader funded projects, including the Mountain Integrated Conservation Agriculture II (MICA II) Programme in Lesotho, The Drought Mitigation through Irrigation Promotion and Conservation Agriculture Extension II (DICE II) in Malawi, Integrating Adolescents into Peri-Urban

Risk Reduction in Zambia (PURRZ) and the Promoting Recovery in Zimbabwe Project (PRIZE) Project in Zimbabwe (United States Agency International Development/Office of United States Foreign Disaster Assistance, 2013). In order to conserve the ownership and rights for the use of the '*GIRRL Programme*' title, the CARE/ACDS project was renamed '*The Integrating Adolescent Girls into Community Based Disaster Risk Reduction in Southern Africa (IAG) Project*' despite its use of the GIRRL Programme model. However, for the purpose of the research, the approach was referred to as the GIRRL Model embodied in the GIRRL Programme. The interventions in Lesotho, Malawi, Zambia and Zimbabwe sought to reach more than 4,000 participants comprising girls, government officials and non-governmental organisations staff and address the challenges faced by girls in disaster and post disaster situations (United Nations International Strategy for Disaster Reduction, 2015:3).

5.7 Methods and Materials

The study proposes to use the HRBA that the GIRRL Programme as an intervention used HRBA and therefore reduces disaster risk. Based on the nature of the GIRRL Programme Model the methodological design prioritised the utilisation of a multiple case study approach (Benedichte Meyer, 2001). This approach enabled the researcher to gather data from the viewpoint of multiple participants to create a multidimensional perspective for analysis (Baxter & Jack, 2008). Case study methodology enabled the examination of phenomena in detail, which in this instance is the multi-case implementation of GIRRL Programme model aimed at reducing the vulnerability of adolescent girls and ultimately reducing their risk in the face of risks and disasters.

This article focuses on the GIRRL Programme implementation in the following communities and countries with the number of participants specified:

- Ikageng (South Africa) * 22 girls (2008)
- Tching (South Africa) * 20 girls (2009)
- Tswelelang (South Africa) * 20 girls (2009)
- Kanana (South Africa) * 20 girls (2011)
- Tshidixwa (Zimbabwe) 23 girls (2012-2013)
- Kanyama (Ward 10) (Zambia) 162 girls, 138 boys (between both Zambian sites) (2012-2013)
- Kanyama (Ward 11) (Zambia) (2012-2013)
- Gwazanyoni/Kalulu/Malisero/Mazanani (Salima, Malawi) 20 girls (2012-2014)
- Chidawa/Losiyati/Malinda/Moya/Mtandaza (Ntcheu, Malawi) 20 girls (2012-2014)
- Mphaki (Lesotho) 26 girls (2012-2013)

*These cases were implemented in previous years, however, they served as the basis for comparison in the region.

In accordance with the case study approach, data were gathered utilising qualitative research tools, specifically key informant interviews, focus groups and document review. The total population was identified as persons involved in or benefiting from the GIRRL Programme/Approach across five country sites. As a qualitative based case study, the research used non-probability sampling. Specifically, a purposive sampling technique was applied which sought to put greater value to the criteria used to select persons being interviewed or involved in focus groups rather than the number of persons (Baxter & Jack, 2008). The criteria was determined by the informants' ability to provide information, ideas and insights on the GIRRL Programme based on their direct or indirect involvement in or as a beneficiary of its implementation (Kumar, 1989). The sampling was further divided among the sub-groups that were most apparent, namely participants, project staff, project facilitators, stakeholders, school officials, parents.

The researcher employed open-ended interview questions for key informants to gather personal perceptions and opinions regarding the GIRRL Programme. Key informant interviews were held with project staff (n=8), project facilitators (n=28), stakeholders (n=17) and school officials (n=7). Focus group sessions were held with participants (n=279) and parents (n=65). Key documents regarding the progress and implementation of the programme across the multiple sites between key informants was in the form of communication collateral, power point presentations, reports and meeting minutes serve as the basis for the document review.

5.8 Data Analysis

Data analysis was conducted according to the pre-identified themes related to the HRBA that were deemed as being relevant to disaster risk reduction (DRR) (Da Costa, 2014). Da Costa (2014) explains that the HRBA should consider four primary elements. She asserts that: *Accountability, Information, Participation and Non-Discrimination* are the elements which must be considered in terms of risk reduction. *Accountability* refers to the need to be answerable and help be responsible for the actions or omissions that have the potential to undermine human rights. It also includes the availability of mechanisms that exist to accept and acknowledge failures. The concept of *Information* highlights the need to disperse knowledge and clear messages regarding hazards as a means of communicating threats and possible remedies or precautions for the public. Information serves as

tool for allowing persons to take an active role in disaster risk reduction activities and ensuring self-protection. *Participation* calls for the non-coerced and meaningful engagement and involvement of communities and civil society in activities related to reducing risk. And finally, *Non-Discrimination* endeavours to incorporate groups likely to be excluded such as children, women and the poor populations.

5.9 Ethical Considerations

Ethical procedures were following in accordance with national and international standards. The study, #NWU-00113-13-S7, was approved by the North-West University Ethics Committee following full scrutiny of the research focus and methodology particularly in relation its focus on vulnerable adolescent girls as ‘minors’ (*See 1.11 Ethical Considerations and Appendix 7.1 Consent Forms)*.

5.10 Findings

The following findings have been documented and presented according to the elements of *Accountability, Information, Participation* and *Non-Discrimination*.

5.10.1 Accountability

Encompasses the acts and omissions that can impact on human rights and seeks to provide for the inclusion of mechanisms that are available to those individuals willing to make complaints (Da Costa, 2014). In the instance of the GIRRL Programme, accountability was promoted in a number of ways. The most predominant means was the establishment of partnerships with local stakeholders and critical role players in each site. This was accomplished directly by encouraging these representatives to support the project through their inputs in stakeholder committees and as facilitators for the capacity building sessions.

Zimbabwe gained initial support from local authorities to ensure stakeholder buy-in and sensitization including Ministries of Education, Youth, Gender & Community Development, Health as well as organisation such as Family Support Trust, The Red Cross, International Organisation for Migration and Save the Children. Further support was acquired from *Medicines Sans Frontiers* and World

Vision in Zimbabwe – who committed to engage the girl participants in training and activities in the future. Zambia sought to build on existing organisational partnerships, established in the Peri-Urban Risk Reduction in Zambia (PURRZ) Project, including representatives from the District Commissioner's Office, the Lusaka City Council, the Ward Development Committee, neighbourhood health centre, and the Disaster Mitigation and Management Unit (DMMU). CARE Malawi used local stakeholders from their DICE II Project including ministries (Agriculture, Education, Gender Children & Social Welfare); departments (Forestry, Climate Change and Environmental Management); the Village Development Committee and Youth Net and Counselling (YONECO). These agencies, departments and organisations have sought to continue to incorporate girl participants even beyond the duration of the programme as a means of ensuring accessibility and supporting dialogue from both sides to help ensure the needs, will and concern of girls continue to be included and acknowledged.

The involvement of these central role players in key sectors of relevance to the vulnerability of girls creates a further opportunity for enabling situations where they can witness the plight of girls and understand first-hand the experiences and dimension of need faced in their daily life. By developing active paths of communication and participation between critical role players, the GIRRL Programme creates a forum for these role players who serve as duty bearers to become aware of issues central to the vulnerability of adolescent girls in disasters and how specific actions are necessary to help protect and empower girls. Stakeholder committees enter into dialogue regarding how each representative agency or organisation could better serve the interest of girls in their specific communities.

The involvement of participants in Community Disaster Committees (CDC), which serve to represent the interests, can be used as the basis for receiving concerns and complaints at the local level. In Zambia, 30 participants now sit on the CDC in Kanyama (Wards 1 and 2) and continue to actively represent the interests of girls in the community. In Lesotho, girl participants have taken active roles in the environmental youth clubs established by CARE as part of the Mountain Integrated Conservation Project (MICA II Project.

While it is asserted that states have the ultimate accountability in protecting its citizens in times of adversity, the GIRRL Programme sought to expand the role beyond the expected disaster

management authorities. The programme recognised the importance and value of involving additional agencies and organisations in assisting to support the unique vulnerability profile and needs of adolescent girls in each locality. This confirms the realisation that non-state actors as well as state actors can also commit to and be involved in supporting and enabling the protection of adolescent girls at risk which helps to promote accountability among key role players.

5.10.2 Information

One of the factors, which has been identified as an element for considering the HRBA in disaster risk reduction, is the provision of information (Da Costa, 2014). Access to quality and essential information is seen as a necessity for effective decision making. In the context of disaster risk reduction, access to information is documented as a requisite for enabling persons to make critical decisions regarding the preparation for, avoidance of and protection in response to hazard threats (United Nations International Strategy for Disaster Reduction, 2004).

By design, the GIRRL Model consists of a comprehensive capacity-building programmes aimed at addressing the root social causes of vulnerability within targeted groups, as a means of improving their resilience (United Nations International Strategy for Disaster Reduction, 2015). The capacity-building programme included topics such as “team building and decision making, self-discovery, mental/physical/sexual health, personal safety and self-defence, environmental awareness, community involvement, career guidance and skills analysis, effective communication, first aid, fire safety, and community-based disaster risk assessment” (United Nations International Strategy for Disaster Reduction, 2015:2). The information conveyed within session topics differed according to site and was directly influenced initially by contributions from stakeholders, experts, parents and other community members, then developed specifically based on the direct input of the girl participants themselves. Each site identified different issues which were seen as contributing to the vulnerability of the adolescent girls in the area. Sessions were led by local facilitators selected by the stakeholder committees and project leaders. Table 5-1, illustrates the collective of conditions that were identified across the ten project sites in five countries and indicates which issues were identified by participants as being central to the vulnerability according to location. The final column identifies which of the core information sessions were selected to best incorporate issues.

In the case of Zambia, the project trained participants in water sampling and quality testing procedures in collaboration with facilitators from Mulungushi University. This was identified as a

critical skill given the dependence of well water for domestic use and the prevalence of flooding and ground water contamination resulting in water borne disease outbreaks. The participants were trained in how to communicate findings to their communities and taught about the precautions and risk associated with contaminated water sources. The perceived value of the information received through participating in capacity building sessions and its impact on the lives of the girl participants was also acknowledged. The participants reiterate the importance of information as the basis of making decisions in addition to gaining a sense of empowerment through having direct access to knowledge regarding issues that affect their lives and those in their community. When questioned about the information that was received, two girl participants from Malawi and Zimbabwe (respectively) stated:

> *[…] Given enough information yes, I can make reasonable decisions.*
> *[…] I have the power to educate others and encourage them.*

In Lesotho, a girl participant acknowledged:

> *[…] Every day when the girls attend the session, most people in the community want to know what they have done each day, just to familiarise themselves with it and in the end, the girls feel much dignified. Most people (in the community) even look at the notes from the sessions and they encourage them to attend the session and get more information*.

Table 5-1: Conditions Contributing to the Vulnerability of Adolescent Girls and Their Inclusion in GIRRL Programme Training Sessions (South Africa, Lesotho, Malawi, Zambia and Zimbabwe)

CONDITIONS CONTRIBUTING TO THE VULNERABILITY OF ADOLESCENT GIRLS	**PROJECT SITES 2008-2013**										**CAPACITY BUILDING SESSIONS**
	IK	TSW	TCH	KAN				1	2		
	SA1	SA2	SA3	SA4	L	M1	M2	ZA1	ZA2	ZI	
Child Abuse (physical)	X	X	X	X	X	X	X				3, 4, 5, 6, 10, 13
Forced early marriage			X		X	X	X			X	3, 4, 5, 6, 7, 10, 13
Early Teenage Pregnancy (Under age 15yrs) (Save the Children USA, 2014)	X	X	X	X	X	X	X	X	X	X	3, 4, 5, 6, 7, 10, 13
HIV/AIDS Infections	X		X								2, 3, 4, 5, 6, 7, 10,13
“Gangster-ism”				X							2, 3, 5, 6, 10, 13
Illegal migration										X	2, 8, 10, 13, 15

Incest				X				X	X	X	3, 4, 5, 6, 7, 10,13
Molestation				X	X	X	X	X	X	X	3, 4, 5, 6, 7, 10, 13
Inadequate Menstrual Support								X	X		5, 6, 10, 13
Female Genital Mutilation						X	X			X	5, 6, 10, 13
Rape	X		X		X	X	X	X	X	X	5, 6, 7, 8, 10, 13
Gender Based Violence						X	X				3, 4, 5, 6, 7, 10, 13
*Gender Preference Feeding						X	X				5, 6, 10, 13
Cancer				X		X	X				5, 6, 13
Teenage Pregnancy (intentional) (age 15-19 yrs.)	X	X	X	X							2 ,3, 4, 5, 6, 7, 10, 13
Unplanned Teenage Pregnancy	X	X	X	X	X	X	X	X	X	X	2, 3, 4, 5, 6, 7, 10, 13
Sexually Transmitted Diseases	X	X	X					X	X		2, 3, 4, 5, 6, 7, 10,13
Prevalence of Child-headed households			X							X	3, 4, 6, 10, 13
Transactional Sex	X	X	X	X		X	X			X	2, 3, 4, 5, 6, 7, 10, 13, 15
Under-Age Drinking	X	X	X	X				X	X		2, 3, 4, 5, 6, 10, 13
Drug Abuse	X	X	X	X				X	X		2, 5, 6, 10, 13
Long Distance to Travel to School (Harassment)										X	8, 10, 13
Poor Housing Construction								X	X		10, 11, 13
Unsafe Use and Storage of Paraffin (for Cooking)	X	X	X	X							10, 11, 13
Lack of Access to Clean, Functional Toilet Facilities (school)	X							X	X		5, 6, 9, 10, 13
Sickness from Contaminated Water								X	X	X	5, 6, 9, 10, 13
Forced Early Withdrawal from School	X		X			X	X	X	X		3, 10, 13, 15

Crime (not including rape)	X	X	X	X				X	X	X	8, 10, 13
Lack of safe places for girls to play	X							X	X		8, 9, 13
Poor Sanitation								X	X		5, 6, 9, 10, 13 *Water Quality Testing
Lack of Potable Water								X	X		5, 6, 9, 10, 13 *Water Quality Testing
Poor Drainage and Solid Waste Removal	X	X	X	X				X	X		9, 10, 13

Project Sites Legend: SA1-South Africa site 1, IK – Ikageng, SA2-South Africa site 2, TSW- Tswelelang, 1 SA3-South Africa site 3, TCH – Tching, SA4-South Africa site 1, KAN- Kanana, L -Lesotho, M -Malawi site 1, M2- Malawi site 2, ZA1- Zambia site 1, ZA2- Zambia site 2, ZI- Zimbabwe

Session Legend 1: Introduction, 2-Team Building and Decision-Making, 3-Discovery Self, 4- Mental Health and Coping Strategies, 5-Physical Health, 6-The Body Personal, 7-Sexual Health and Healthy Decisions, 8- Personal Safety and Self-Defence, 9- Environmental Awareness, 10-Disaster Risk Assessment, 11- Fire Safety, 12-First Aid Training, 13- Community Involvement, 14- Effective Communication and Leadership, 15-Personal Evaluation, Skills Analysis and Career Guidance, 16-Community Event: Preparation and Discussion

Information, in this instance also serves as a means to uplift girls who were previously undervalued due to their social positions as “just girls” or “children”. The accrual of knowledge through their involvement in the GIRRL sessions has elevated them to positions as ‘resource persons’ where they are capable of sharing knowledge with others. This input also reiterates that information received through the programme is helping to make girls more visible within their community. The information provided not only helps to create a greater understanding of their individual vulnerability and risk but also serves to help girls make better decisions necessary for improving their overall resilience. The acquisition of knowledge serves as the basis for allowing for meaningful input in decision making through their active participation in social scenarios as discussed in the next section.

5.10.3 Participation

Participation in this instance represents the involvement of civil society and communities in the reduction of risk. This participation should be encouraged but otherwise free, active and meaningful (Da Costa, 2014). The programme sought to engage the girl participants as a specific segment of the community in localised disaster risk reduction activities as well as activities directly aimed at building their overall resilience. Participation was also sought from the broader community and critical role players in seeking their support in the form of involvement in the stakeholder committee

and as facilitators. The identified girls within the community that met the GIRRL Programme selection criteria were invited to participate in the programme following a briefing in their local language. This step was aimed encouraging girls to become involved in the programme but more importantly, it signified an opportunity to exercise their right to willingly participate.

The programme engaged the Participatory Action Research approach as its primary methodology(Forbes-Genade & Van Niekerk, in press). The PAR approach emphasises a series of alternating stages including planning, action, reflection and evaluation (Pain *et al.,* 2011) as the means of facilitating the active involvement of participants. The GIRRL Programme sought to involve adolescent girls in an active, cooperative enquiry in order to help them comprehend how they can use information as the basis of effective decision making in building resilience and reducing vulnerability (Forbes-Genade & Van Niekerk, in press)). The GIRRL Programme reflects these stages across its integral activities which included building relationships, making collaborative decisions, defining roles and responsibilities, working together to collect data, enabling the involvement of all girls, determining the action plan, reflecting on process and giving feedback (Forbes-Genade & Van Niekerk, in press). Girls were involved in discussions regarding their life experience pertaining to risk and vulnerability regarding everyday existence and regarding disasters. The results were used to define the significant physical and socio-economic risk that then served as the basis for risk management strategies.

A number of leadership roles were identified and engaged by the girl participants across five countries which enabled them to have the opportunity to integrate their views and needs into existing planning processes (United Nations International Strategy for Disaster Reduction, 2015; Forbes-Biggs & Maartens, 2012). Girls from the programme were afforded positions on the local Community Disaster Committee in Zambia, as leaders in school-based Disaster Preparedness Groups (Zambia), are partners in local irrigation schemes (Malawi), support youth environmental clubs and contribute to school parent organisations – all as a means of sharing information with their peers and their communities. The CARE Zambia Project Leader reported girl led dialogue with the participating schools and parent organisations regarding hygiene issues surrounding menstrual health, resulting in the following:

> *[…] There is now a commitment to place sanitary disposal bins in the schools (and parents have committed to) prioritising the purchase of sanitary napkins (for their daughters) who*

> *otherwise have been forced to use unsanitary cloths or be absent from school during menstruation.*

Following their training in water quality testing, girl participants in Zambia were also ascribed important roles wherein they were garnered with the responsibility of communicating water quality results and warning to their families, communities and local schools as well as advising on safe water practices.

In both sites in Malawi girl participants became involved in irrigation projects to help mitigate flooding and minimise the effects of drought, which had positive implications for food security. Their participation was particularly significant because during times of food scarcity, these girls were often the unfairly affected by gender preference feeding. In Malawi girls identified how they could actively participate in supporting local irrigation projects:

> *[…] To make my community a safer place, I can promote replanting of trees where they are cut and advise people to embrace irrigation practices of agriculture.*

Girls from one of the sites in Malawi also took initiative and approached the local elders requesting a share in community lands so that they may actively participate in small plot farming. Their request was granted and the girls planted local crops which not only increased food production for their families and helped them to utilise their farming skills but also served as an action which helped to establish their value as active members of the community (United Nations International Strategy for Disaster Reduction, 2015:3).

In Lesotho, the girls were involved in developing a mitigation strategy for their mountain community and were able to learn how their role in tree planting as part of the local youth environmental clubs had a direct influence on protecting the community and renewing the natural resources that they rely on for building homes and for fire wood. They explained that:

> […] By growing trees in the area to minimise the impact of the wind and we can also benefit (from) wood and planks.

The Lesotho girls have also agreed to participate in a conservation agriculture demonstration site (MICA) to be conducted in their school because they want to help disseminate the technology to their community (Tlale, 2013).

South African participants in Ikageng and Tshwelelang partnered with local government (Fire Department and Public Safety/Disaster Management) for awareness and safety campaigns in local public schools in their respective communities (United Nations International Strategy for Disaster Reduction Secretariat, 2008). The girl participants volunteered with a local youth organisation in Ikageng, to host sessions for their peers on significant topics such as sexual health, peer support, team-building, coping strategies and community awareness. They also used the information conveyed in the programme to provide direction toward services available in the community and as well as serving as mentors for their peers. Occasions for further advancement of participants were also presented when the Youth Centre Coordinator in Ikageng selected ten (10) of the girls from the programme to receive more specialised training in a Peer Counselling Training Programme to help Youth At-Risk.

The Zimbabwe groups were also trained in the principles of the village savings and loan scheme and “the two groups established their own respective schemes with a total savings of R500” (personal communication CARE Zimbabwe Project Manager P. Ngundu, 2013). The CARE Zimbabwe Project Leader reported that the girls were regarded “as leaders and resource persons, and the participating school girls have gained better status and taken up leadership roles serving as key Disaster Risk Reduction (DRR) informants within their communities” (personal communication CARE Zimbabwe Project Manager P. Ngundu, 2013).

Participation served as a central element in the design and implementation of the GIRRL Programme across the multi-site implementation. This participation included the active involvement of adolescent girls as the target group as well as from the key role players, including government, community members, parents and stakeholders.

5.10.4 Non-Discrimination

The element of Non-Discrimination confers the idea that certain groups can face exclusion and therefore must be incorporated (Da Costa, 2014). General human rights practices commonly

acknowledge that specific groups are discriminated against based on factors such as gender, economic status, race, age, social position and legal status must be considered. “Gender and age based disadvantage and exclusion is prevalent in many traditional cultures within the Southern Africa region”(Genade & van Niekerk, 2014:6). “What happens to an adolescent girl in such times (of crisis or disaster) is directly related to wider attitudes towards women and girls and the political, economic, social and cultural context in which they live” (Plan International, 2013:11). Based on this inherent social inequity, disadvantaged adolescent girls living in Southern Africa are considered to be particularly vulnerable to disaster related threats.

The selection was based on pre-defined criteria including gender, socio-economic background, age and place of residence which was directly informed by vulnerability-based research (Cutter *et al.,* 2003; Plan International, 2003). The vulnerability-based research provided insight into specific characteristics that undermined resilience or contributed to the increased susceptibility of adolescent girls. The demographic was targeted based on the recognition that this specific sub-section of the society in Southern Africa was characterised by limited access to monetary assets, land/property, quality education as well as being excluded from social, economic and political decision-making processes. CARE Country Teams used their familiarity with the region to identify hazard prone communities and then worked with communities and schools to select potential participants. Care Zimbabwe in particular, used previously collected demographic data to inform its site selection and then isolated a target group through the participant criteria.

One of the concerns raised in the initial GIRRL Programme implementation in South Africa was that, despite the clear rationale for targeting adolescent girls as marginalised and vulnerable groups in Southern Africa in DRR, the programme recognised the need to look beyond just girls. The clear recognition that girls did not live in a vacuum served as foundation for understanding the dimensions of how girls interact and live within the context of their unique communities. The GIRRL Programme sought to involve boys, men and communities in order to help them understand the difference experiences that girls have as compared to boys and men living in their specific communities. Boys in the communities were involved to varying degrees from group discussions for comparing different perspectives on vulnerability and risk, to attending specific training sessions (Zambia), to being the recipients of girl-led peer training (Ikageng, Tshwelelang, Tching and Kanana), post training project related clubs (Lesotho, Malawi, Zambia, Zimbabwe) to the co-participation in training sessions.

In the application of GIRRL in Zambia, the programme sought to specifically integrate adolescent boys into some of the skills training sessions and discussions in order to help create cross- gender dialogue regarding the similarities, differences and common grounds for helping to facilitate the advancement of girls into DRR. This approach helped to create a better understanding of gender-based vulnerabilities and social perceptions of girls and boys at community level. The unique intervention targeted adolescent girls rather than utilising the traditional one size fits all model of disaster risk reduction at community level.

5.11 Discussion

The analysis of data has shown that the GIRRL Programme utilises the four elements of the HRBA in DRR in the form of accountability, information, non-discrimination and participation. This is significant because these findings acknowledge inequality and human rights failures at the root of vulnerability and as such attempt to reduce risk must look at changing human rights perspectives. The application of the HRBA served as a tool for catalysing change in the realisation of human rights based equality. The GIRRL Programme, as a structured programme, seeks to use this approach to build greater resilience through promoting social equality and the acknowledgement of the rights of the girl child.

Human rights and the equality that they seek to achieve serve as the background for ensuring the protection and validation of the worth of all persons. In contexts where disparity is rampant and certain groups are disregarded, the promotion of equality achieved through social change should be the focus. When disparity is complicated by the threat posed by hazards, it is the duty of states to ensure that means are found to not just to rescue persons and provide relief after the impact, but to rather create conditions which ultimately seek to minimise the risk faced by the vulnerable and marginalised.

The use of the HRBA as the approach becomes the means for encouraging change. Rather than providing short term remedies or relief, the HRBA looks at long term solutions aimed at dismantling the complex roots of risk by building resilience in vulnerable groups. The approach looks at challenging and changing social structures and advancing the social position of adolescent girls at the community level where they live and where they suffer greatest. The promotion of accountability and non-discrimination, encouraged participation and the provision of information are means prescribed to help redefine the space that disadvantaged adolescent girls currently inhabit as a vulnerable group in Southern Africa. The shift in focus necessary to promote these elements,

challenges the foundations of how girls are seen, the roles they play and access they have to resources.

While some of the contributions and achievements of facilitating the HRBA are difficult to quantify (such as recognised behaviour changes and confidence in participants) other aspects are more easily visible and documented. The participation of girls in DRR committees, the active engagement in youth environmental clubs, irrigation schemes and youth support services, having girls develop disaster management plans and contributing to mitigation strategies are more clearly apparent.

The GIRRL Programme, as an intervention uses the HRBA to help create a stronger presence for adolescent girls in the region by giving them a voice, creating informed resource persons, and encouraging support within the wider community and the public sector. Since its inception, the programme has been recognised as a good practice globally in the areas of gender, climate change and disaster risk reduction (United Nations International Strategy for Disaster Reduction Secretariat ,2008), women's leadership in risk resilient development (United Nations International Strategy for Disaster Reduction, 2015), for its value in involving girls as leaders in risk reduction (Swarup *et al.,* 2011; Plan International, 2013). The programme is recognised in the Southern African region specifically by the United Nations Economic Commission for Africa for gender and risk reduction as a good practice (United Nations Economic Commission for Africa, 2015) and serves as example presented by Women and Climate Change Committee to European Parliament (European Parliament,2012). The GIRRL Model has been used as a case to illustrate and help promote the advancement of the rights of adolescent girls pre-and post disaster, through engaging a human rights based approach, at the national, regional and global level by acknowledging the value of this overshadowed demographic in decision making and participation in disaster risk reduction measures.

5.12 Lessons Learned

There is an inherent need to have girls involved in DRR related activities in order to account for their differing needs which are often overlooked in broad-scale programming. The GIRRL Programme Model must be interpreted based on the specific context to which it is applied which challenges the traditional one-size fits all practices. These generalised practices fail to adequately address the specific needs of adolescent girls in the unique context which is Southern Africa. The failure to accept girls as equals in society has created and supported cultural practices and behaviours which permit early marriages, teenage conception, female genital mutilation, gender-based violence, forced

withdrawal from school and gender preference feeding which contribute significantly to the vulnerability of this group (Plan International 2010; Plan International 2013; French-Gates, 2014).

Despite the GIRRL Programme Model equality based focused on girls, there is a distinct and recognised need for the engagement of role players from the communities, including boys, parents and local elders. Commitment from local leaders and community members, as well as support in the form political will help to ensure accountability and have helped to facilitate empowerment of girl participants. Continuous engagement, inclusionary practices and buy-in from the community and local stakeholders serve as requisite for creating and enabling involvement of girls as participants as well as active leaders in DRR. Active involvement of girls in community activities such as irrigation schemes, youth environmental clubs, DRR committees and CDCs is critical in helping to make girls more visible and recognised in the public sphere. Girls are capable of making meaningful contributions through active participation and leadership in DRR and community resilience-building activities.

This article argues that efforts to enhance human rights by recognising and protecting individuals from harm can reduce the vulnerability of adolescent girls as a marginalised segment of population, and that this group can as a result, become more resilient to cope with risk and disasters. The HRBA has been used as a tool for encouraging the re-balancing of power in marginalised groups based on its efforts to promote empowerment through the recognition of the sovereignty of human rights. The link between the lack of power and forced social exclusion which illustrates the failure to equally acknowledge human rights in society, serves as a contributing element to vulnerability and subsequently disaster risk. As a result of the impervious connections, the HRBA, although originally derived to address marginalisation in the context of development, can be applied to DRR through the promotion of social inclusionary practices such as enabling accountability, providing information, supporting participation and ensuring non-discrimination. These practices are supported through empowerment-derived activities such as those developed within the GIRRL Programme Model for capacity building and advancing the resilience of marginalised adolescent girls. The GIRRL Programme Model utilised an HRBA focus to shape a complex and strategic capacity building agenda and now can be recognised as a practical intervention Model for prioritising the HRBA in DRR.

When children are vulnerable, communities are also more vulnerable to the effects of disaster. “We can promote children’s resilience, and by extension, reduce their vulnerability by improving their

access to resources and information, empowering them through encouraging their participation in disaster preparedness and response activities, offering personal and community support, and ensuring equitable treatment."(Peek, 2008:20)

5.13 Funding

Funds for the IAG Project were provided by the United States Agency for International Development (USAID) # AID-OFDA-G-12-00063 as well as the initial funding received from the Provention Consortium Grant Number 3173 ZAF and with the support of the Dr. Kenneth Kaunda District Municipality (North West Province) and the Hon. Mayor Pinky Moloi.

SECTION C SUMMATION, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter serves to present an overall summation of the study, draw conclusions based on the findings and to provide recommendations pertaining to the overall value of this research within disaster policy and praxis.

6.2 Summation

The summary reviews the critical elements guiding the basis of the study including the aims and objectives which provided the structure. The goal of this study has been to explore the GIRRL Programme as a multi-site case study to analyse the contributions of GASBI as the basis for a new protocol for guiding DRR policy and praxis in Southern Africa.

6.2.1 Aim of the Research

The main aim of the study sought to recognise the importance of social conditions and practices in defining vulnerability with particular emphasis on adolescent girls in Southern Africa while presenting recommendations for a new protocol for DRR policy and praxis in the region.

The research provided a situational analysis of the nature of risk present in Southern Africa as the basis for justifying the need for a unique approach towards understanding how to deal with the conditions. The combination of poverty and underdevelopment, vulnerable livelihoods, population growth patterns and the implications of HIV/AIDS play a significant role in shaping the social context of Southern Africa and increasing the vulnerability of its population (*See Section 2.7 Towards a More Refined Perspective of Risk in Southern Africa)*. In order to address this scenario, it was imperative to understand the role of social conditions and how these effect the distribution of risk. In particular, it was determined that traditional 'a priori' determinants of vulnerability failed to adequately assess and understand the complexity of the risk faced. A more specific intersectional analysis of identity is a means of understanding the most vulnerable groups identified through a gender and age intersect. The GASBI Model, as a new protocol, was derived from this need to target the unique dynamics of risk in Southern Africa through a situation and intersectional framing of identity and serves as a means for directing the specificity and nature of DRR policy and praxis (*As described in Section 2.8 Gender Age Socio-Behavioural Intervention – The Concept).* The GIRRL Programme served as an application of the GASBI Model, which focused on the vulnerability of adolescent girls in Southern Africa and used a participatory approach for the analysis of the local conditions, identifications of practices which contributed to their susceptibility and the development of activities aimed at

empowerment and capacity building (*See Sections: 3.9 The GIRRL Programme, 4.9 PAR Phases, .4.11 Discussions and Lessons Learned*)

6.2.2 Objectives of the Research

The objectives of the study provided operational direction by detailing the actions that needed to be undertaken in order to achieve the aim. The objectives developed for this study included:

1. To describe the nature of disaster risk in the Southern African region.
2. To assess the current status of DRR policy and praxis in the five case studies countries in the Southern African region.
3. To establish the theoretical underpinnings for the GASBI Model.
4. To clarify the nature and orientation of the GIRRL Programme.
5. To identify a means of evaluation for the determination of the GIRRL Programme can be classified as a GASBI.
6. To evaluate the contributions of the GIRRL Programme to the disaster risk reduction policy and praxis in the region.
7. To decipher how to integrate the GASBI as a new protocol for DRR policy and praxis in Southern Africa.

6.3 Conclusions Regarding the Aim and Objectives of the Study

The following sections present the conclusions based on the respective objectives identified within the study.

6.3.1 To describe the nature of disaster risk in the Southern African region

The nature of risk is defined by a combination of hazard exposure and vulnerability. Article 1 – The Gender Age Socio-Behavioural Intervention (GASBI) as a response to Disaster Risk Reduction in the Southern Africa Region discussed this topic (*See Section 2.1*). The area is expected to

experience significant increases in hydro metrological hazards which include drought and flooding events. However, a situational analysis of Southern Africa revealed other critical issues that influence risk *(See Section: 2.7 Towards a More Refined Perspective of Risk in Southern Africa)*. Of significance, issues including the undeniable influence of poverty and underdevelopment, the dependence on vulnerable livelihoods, population growth trends and the extent of the HIV/AIDS epidemic, have a fundamental influence on the increased vulnerability of the population. This unique combination of factors, the scale of persons affected by them and the implications on their lived experiences has a negative influence on risk. It ultimately undermines the ability of persons to protect themselves and rebound following adversity, thus this making them susceptible to the impact of hazards. The combination of highly susceptible persons in areas that have been marked for increased frequency in climate change-related hydro meteorological hazards adds to the risk complexity of disaster risk. Consequently, in addition to general determinants of vulnerability, the nature of risk in the region is considered to be unique based on the presence of these conditions.

6.3.2 To assess the current status of DRR policy and praxis in the Southern African region

DRR in policy and praxis in Southern Africa is considered to have a number of gaps which undermine its legitimacy. Article 2: New Protocol in Disaster Risk Reduction Policy and Praxis for the Southern Africa Region: Gender Age Socio-Behavioural Intervention and the GIRRL Programme Model discussed this topic in depth (*See Section 3.1)*. Within the region, independent country legislation is more descriptive on structural hierarchies and less specific on the mechanic of how DRR should be actualised (*See Section 3.6 Disaster Risk Reduction Policy and Praxis – A Regional Perspective, Section 3.7 Southern Africa Disaster Policy, 3.8 Southern Africa Disaster Risk Reduction Praxis*).

Gender and age considerations, while prevalent based on the nature of risk, fail to be adequately addressed in policy and praxis. As a result of this significant void, there are a number of persons that are left without consideration in DRR. Despite global and regional calls for the inclusion of women, children and youth in DRR policy and praxis, the area is yet to bring about the marked change necessary to advance Southern Africa's DRR to a state of 'Gender-Age' maturity.

DRR praxis has primarily focused on four primary areas of indirect technical assistance, sector activities, advisory services and leveraging investment. Praxis has been rooted in community based projects, with many of them focusing on water and sanitation, food security and sustainable livelihoods; disaster reduction, vulnerability assessment and climate change adaptation; early warning systems, education and awareness as well as capacity building for communities and government. Many of these projects were funded by donor agencies while working in partnership

with local government. This is significant because the limited government led practical action is suggestive of their limitations in instigating praxis. Additionally, many projects target 'communities' as a whole and once again overlook the needs of women, adolescents or children. This often leaves vulnerable groups non-prioritised and fails to provide benefit or protection.

While the regional is making progress towards DRR, there are a number of gaps that still need to be addressed.

6.3.3 To establish the theoretical underpinnings for the GASBI Model

Article 1 Gender Age Socio-Behavioural Intervention (GASBI) as a response to disaster risk reduction in Southern Africa region (see Section 2.1) frames the model within theories that establish a connection between natural hazards impact and human systems in determining disaster risk and impact. It established the importance of understanding human context in defining impact. The ideas of Blaikie *et al.*(2003) identified the concept of vulnerability as an element of risk in the Pressure and Release and Access Models and presented the social roots of disasters. Wisner and Luce(1993) and Bankoff *et al.*(2004) recognised that disasters failed to impact population evenly and these social roots and differences within the social context were central to explaining these deviations. Elements of identity such as gender and age were highlighted as defining factors in shaping the lived experiences of personal identity and serve as a foundation for assimilating and dividing populations and further served as grounds for dividing and allocating social power and access to resources. These differences in power and access shape the ability of persons to protect themselves and rebound from the effects of adversity.

Further theoretical reference was drawn from appreciating the dynamics of local context such as Cutter *et al.'s* (2008) place based model of vulnerability and Alexander's (2012) work that values understanding local culture and social context.

However, the GASBI Model draws further to reveal the need for further analysis of the complexity of Southern Africa and disaster reduction through a more in depth understanding of vulnerability beyond the traditional 'a priori' determinants. GASBI followed the recommendations of Carr *et al.*(2015) that promoted the need for examining identity within an intersectional framework of both gender and age based considerations, in order to establish a more reflective portrait of vulnerability of the high risk groups such as adolescent girls. The final theoretical element is derived from the Social Practices theory. Social Practice theory grounds how identity fits within the particular social context and how it influences the different social practices of the vulnerability of groups. This understanding of practices and behaviour would serve as a basis for developing better knowledge on how and why groups are vulnerable and how remediation can be shaped as a result. The GASBI

Model was developed on the basis of understanding the social roots of vulnerability which directed the need for a situation and intersectional framing of identity as a means for guiding DRR in Southern Africa.

6.3.4 To clarify the nature and orientation of the GIRRL Programme

The GIRRL Programme was designed as an intervention to address the reduction of disaster risk by examining the underlying social vulnerability of the target adolescent girl population in Southern Africa. *Article 2 A New Protocol in Disaster Risk Reduction Policy and Praxis for the Southern Africa Region: GASBI and the GIRRL Programme* (*See Section 3.1*), introduced the GIRRL Programme which targeted adolescent girls in Southern Africa. *Article 3 Participatory Action Research Techniques Applied to the Case Study of the GIRRL Programme in Ikageng, South Africa (See Section 4.1*) discussed how the programme utilised the PAR approach to help empower girl participants through targeted capacity building. The intervention focused on gender and age specific capacity building activities designed to promote empowerment and encourage individual agency. Originally implemented in North West Province in South Africa, and targeting economically disadvantaged adolescent girls in townships, the programme was replicated in three other sites in the same province. It gained support from the CARE organisation and was modified into the Integrating Adolescent Girls into Community Based Disaster Risk Reduction in Southern Africa (IAG) Project and was implemented in Lesotho, Malawi, Zambia and Zimbabwe.

6.3.5 To identify a means of evaluating the GIRRL Programme and to determine if it can be classified as a GASBI

The GIRRL Programme serves as the application of GASBI in praxis which highlighted the need to remediate and reduce the negative implications of social exclusive practices which are present in the Southern Africa context which was confirmed in Article 2 (*see Section 3.1*). The GASBI Model is based on a complex analysis of situational conditions and intersectional dynamics of identity. The GASBI Model is comprised of considerations surrounding the intersection of gender and age and an understanding of the social context which provides insights for social practices which contribute to vulnerability. It also draws on this understanding to explore and explain behavioural responses in order to shape interventions accordingly. The GIRRL Programme can be evaluated based on its ability to be applied within the model's framework as presented in Article 1 *(see Section 2.1)*. The GIRRL Programme focuses on adolescent girls within the social context of Southern Africa in a series of rural townships in South Africa, rural communities in Lesotho, Malawi and Zimbabwe and

in a peri-urban settlement in Zambia. The programme examined the conditions present in each unique case and how they influenced the lives of girls based on the GASBI Model framework.

6.3.6 To evaluate the contributions of the GIRRL Programme to the disaster risk reduction policy and praxis in the region

The HRBA is recommended to guide DRR. The HRBA sought to reduce inequality as a driving factor for vulnerability and an underlying cause of risk. The HRBA served as a conceptual framework for evaluating and guiding decision making. As a result, the HRBA was used as the foundation for analysing the GIRRL Programme within the context of DRR in Southern Africa as presented with Article 4 - The GIRRL Programme – A Human Rights Based Approach to Disaster Risk Reduction in Southern Africa (*see Section 5.1*). The approach presented four themes for consideration in DRR includes accountability, information, participation and non-discrimination. The GIRRL Programme sought to expand the accountability for citizens beyond the state to include additional agencies and organisations and to assist vulnerable groups such as adolescent girls. Information is central to effective decision making. The GIRRL Programme Model served as a comprehensive capacity building programme directed at addressing the root causes of social vulnerability within the adolescent girl's target group. The programme covered critical topics, including team-building and decision making, self-defence, self-discovery, mental/physical/sexual health, and community-based disaster risk assessment. Participation served as a primarily element in the design of the programme which the PAR approach for actively engaging the adolescent girl target group, broader community and critical role players. It reflected participation through relationship building, joint decision making and date collection, roles and responsibilities allocations, the inclusion of all girls, defining their action plan, self-reflection and feedback. Non-discrimination reflected the fact that certain groups face discrimination and unfair prejudice. Gender and age based disadvantage and exclusions are prevalent in many traditional cultures within the Southern African region. Based on this social inequality, disadvantaged adolescent girls are considered vulnerable to disasters and hence this was the justification for their inclusion and prioritisation.

The GIRRL Programme was evaluated against the themes and criteria prioritised within the HRBA as being pertinent to the reduction of risk. The achievement within the areas of accountability, information provision, participation and non-discrimination aims to reduce inequality which serves as a factor in defining vulnerability and as a contributor to disaster risk.

6.3.7 To decipher how to integrate the GASBI as a new protocol for DRR policy and praxis in Southern Africa

The principles which underlie the GASBI Model should be taken into consideration in DRR policy and praxis. This topic as discussed within *Article 1* (*section 2.1*) wherein the GASBI is developed in direct response to the context of risk within Southern Africa and hence should be used to guide DRR policy and praxis based on the inherent needs and conditions identified. DRR policy needs to prioritise the importance of understanding the unique nature of risk in the region. In order to do so, policy must also acknowledge the inherent links to social dimensions and must look towards addressing the underlying causes of risk. It needs to be aligned with social policy. Understanding the dimensions of underdevelopment and poverty, population growth, livelihood vulnerability and the HIV/AIDS epidemic in relation to Southern Africa needs to be a fundamental consideration in developing effective DRR policy. Policy must provide more specific boundaries and direction for ensuring that the population, particularly the most vulnerability groups, are protected.

6.4 Conclusions

The compilation of articles embodied in the study expounded on the protocol's development and its application to DRR policy and praxis. The research presented the underpinnings of the model, designed to improve the understanding of the connectedness and interplay of the elements that produce risk within Southern Africa. The second article established the GIRRL Programme as a GASBI specifically looking at the deficiencies in DRR policy and praxis. The third article presented the strategic use of the PAR approach within the GIRRL Programme and how it aimed to use PAR to reduce vulnerability as a component of disaster risk through promoting empowerment, action and engagement. The final article looked at the how the GIRRL Programme as the embodiment of the GASBI Model achieved disaster risk reduction goals through the promotion of human rights using the Human Rights Based Approach (HRBA).

The following sections will summarise the findings of each of the four supporting articles which formed the basis of the research investigation.

6.4.1 Article 1: The Gender Age Socio-Behavioural Intervention (GASBI) as a Response to Disaster Risk Reduction in the Southern Africa Region

The article presents the GASBI protocol as a means for analysing the complexity of risk in Southern Africa through the lens of social vulnerability which is a significant contributor. The Model/protocol prescribed a focus on two of the most predominant elements of identity, gender and age, as critical elements influencing vulnerability in the region. It recognises the uniqueness of the nature of the risk in the region and highlights underdevelopment and poverty, vulnerable livelihoods, population growth patterns and the implications of HIV/AIDS epidemic as situational conditions that contribute to the susceptibility of the population to hazards and adversity. As a result, traditional DRR approaches fail to be effective in remediating this risk. The article recognises that much more specific approaches need to be engaged to target the dynamics of vulnerability here. Having reviewed theories relating to disaster risk and vulnerability targeting on the social context, culture and location, there were still voids that were not addressed. It was determined that to get the depth of analysis necessary to understand risk in Southern Africa, a situational and intersectional analysis of identity framework needed to be drawn on simultaneously. This highlighted the need for a contextual basis and the understanding of the most vulnerable groups as identified through gender-age intersect. The GASBI Model was presented as an approach for targeting the unique dynamics of risk in Southern Africa through a situational and intersectional framing of identity.

6.4.2 Article 2: A New Protocol in Disaster Risk Reduction Policy and Praxis for the Southern Africa Region: Gender Age Socio-Behavioural Intervention and the GIRRL Programme Model

The second article introduces the policy and praxis based environment of DRR in Southern Africa. It is within this context that GASBI is framed. It summarises the need for recognising issues surrounding gender and age in the form of a call for participation and engagement of children and youth in risk reduction. In general, policy across the region reflects similar insufficiencies in its overtly generalised directives regarding vulnerable groups. At best, there may be an occasional reference to women, children and the elderly demographic that warrant some additional consideration. This consideration is often neither defined nor worded strong enough to justify serious focus or prioritisation.

Emphasis is placed on the need to engage these groups in practice, especially at local level. Southern Africa's DRR has yet to develop gender; age considerations to a state of maturity. Praxis also fails to be driven by government, even when policy stipulates the state's responsibility in leading DRR. General criticism is rooted in sector specific community projects which may include women, children and the elderly as components of the broader community, but fail to examine the unique dynamics of vulnerability that they experience.

The article presents the GIRRL Programme as an application of the GASBI which seeks to use it as the basis for prioritising the focus on female youth based on the inherent weaknesses in Southern Africa's DRR policy and praxis. The GIRRL Programme uses the PAR approach in order to increase self-esteem and encourage participation of adolescent girls as a distinctly vulnerable group.

6.4.3 Article 3: Participatory Action Research (PAR) techniques applied to the Case Study of the GIRRL Programme in Ikageng, South Africa

The article uses the context of Southern Africa and the prevalence of social inequality as a contributor to increased disaster risk, as the basis for justifying the GIRRL Programme approach. Inequality creates conditions wherein discrimination and exclusionary practices are common place in the social context. The resulting scenarios prevent the fair and free distribution and access to resources, and limits full participation in society and decision-making. This inhibits the ability of the affected groups to adequately protect themselves and rebound from adversity. This reality is the foundational argument behind the unequal distribution of risk across societies and serves as the basis for examining how risk can be addressed in highly disparate social context.

Efforts to reduce vulnerability derived from social disparity and inequality have looked at remedies that seek to re-distribute social power through the engagement and participation of vulnerability groups. The article presented how the GIRRL Programme used PAR as an approach aimed at self-examination and self-initiated (proactive) change to help encourage empowerment among marginalised adolescent girls in Southern Africa. The PAR approach has served as a means of increasing self-esteem and encouraging participation in decision-making of those that are marginalised, oppressed, impoverished and excluded. The PAR approach in the GIRRL Programme focused on critical areas identified as contributing to vulnerability of the demographic, including teenage pregnancy, transactional sex, HIV/AIDS infections, domestic violence, and forced early

marriage. These issues have roots in social inequality and how gender and age discrimination and social perception influence access, decision-making and subsequent behaviours. PAR used within the GIRRL Programme served as a platform for promoting girls' empowerment through engagement and promoted the social consideration of girl children and their unique perspectives and contributions in their communities.

6.4.4 Article 4 – The GIRRL Programme – A Human Rights Based Approach to Disaster Risk Reduction in the Southern Africa Region

The fourths article frames effective DRR within the context of equality, achieved through the promotion of the HRBA. The inherent underpinnings of social vulnerability as a dominant feature of the Southern Africa region, was examined as a contributor to the unique profile of risk in the area. The failure to realise basic human rights across all persons facilitates this unequal treatment. Social inequality is recognised as a driving factor behind risk as it reinforces differences that are often used as the basis for exclusionary practices and discrimination. These practices create disadvantages that reinforce the inability of persons to protect themselves against the effects of stressors and strains such as hazard impact. The article highlights the need for greater equality as the remedy for balancing social power, access and decision-making, which has positive and direct effects of shifting vulnerability and reducing risk. The HRBA has been affirmed as a tool for improving social positioning through encouraging inclusion of marginalised groups. This approach was applied for the GIRRL Programme to test its ability to further the ends of promoting equality through elements of accountability, information provision, participation and non-discrimination. The article validates the need to look beyond short-term remedies and rather examine and address the socially derived roots of vulnerability entrenched in inequality and discriminatory social practices. Efforts to reduce risk in Southern Africa must look at understanding social context and how it shapes vulnerability in order to create meaningful and long lasting solutions.

6.5 Contributions to New Knowledge

The research was the basis for developing a new protocol for guiding and prioritising disaster risk reduction in the Southern Africa region. The protocol sought to examine the unique nature of risk within the region and to frame that within the recognised deficiencies that were acknowledged in DRR policy and praxis. Disaster risk was complicated by the presence of not only hazard threats, especially those of linked to climate change, but also from a population that faces compounded

conditions contributing to vulnerability. The compounding factors include underdevelopment and poverty, population growth patterns, the implications vulnerable livelihoods and the HIV/AIDS epidemic. Many of these factors undermine the ability of the affected to protect themselves and rebound following exposure to adverse conditions. These factors have greater implications when examined across gender and age lines and are rooted in social inequality. This necessitates an approach that primarily focuses on examining and understanding social conditions present. It directs remediation to focus on the most significant focal issues, which, based on the findings, are predominantly along gender and age lines (for example based on growth of the child and youth demographic in Southern Africa, prevalence of gender inequality, women as a vulnerable group in disasters, the prevalence of poverty among women). These parameters must be examined within the specific social context to provide a better understanding of how risk is amplified in that setting. Understanding the social context is also critical in examining the influences on behaviour which will have implications on intervention design.

The GASBI protocol is the first of its kind to seek to understand and remediate risk in Southern Africa, acknowledging the fact that traditional interventions fail to account for the complexity in the intersectionality of identifying elements such as gender and age. Where both elements are independently considered as factors which contribute to increased vulnerability, the interplay between both gender and age can muddy the waters of traditional DRR approaches.

6.6 Recommendations

The study examined the underpinnings of risk in the Southern Africa region with emphasis on the unique social conditions and social vulnerability. The investigation served as the reason for proposing a new protocol introduced as the GASBI, as the basis for prioritising and directing DRR policy and praxis in the region.

The recommendations seek to highlight the overall findings of the investigation and are presented below:

6.6.1 Social Context Critical in Defining Vulnerability and Risk in Southern Africa

The research highlights the importance of looking at the social roots and dimensions of vulnerability and how effective DRR requires not only targeting individual behaviour but needs the appreciation of the social context in order to develop effective risk reduction policies. Effective risk reduction in

Southern Africa requires an understanding of the social dimensions that complicate risk in the region. Interventions must address not only the surface issues but the social dynamics that reinforce vulnerability. Developing knowledge on how inequality creates discrimination and exclusion in society, in addition to how this discrimination serves to limit access to resources and preventing social participation in decision-making thus, reinforcing vulnerability.

6.6.2 One size does not fit all

The research established that given the conditions present and gaps in policy and praxis in Southern Africa, a more specific and comprehensive approach is necessary to target the underlying causation of risk. Traditional applications of one dimensional or 'one size fits all' risk reduction policies or praxis fail to adequately address the complexity of the risk present in the region. Interventions need to take all of these elements of vulnerability into account, as well as the processes that create them as the basis for developing effective risk reduction remedies. It is only after examining these interconnected elements such as gender and age and social context (underdevelopment and poverty, population growth patterns, vulnerability livelihoods and the HIV/AIDS epidemic) that a clear perspective of risk can be developed. A situational analysis of the social context and an intersectional view of elements of identity are requisite for focusing efforts on the most vulnerable groups in order to create tailored interventions based on their lived experiences. The GASBI Model was developed as a means of directing the focus to highlight the specificities within Southern Africa in order to drive the creation of more effective DRR policy and praxis.

6.6.3 Intersectionality is Central to Understanding Risk in Southern Africa

The utilisation of single axis of identity as a basis for understanding vulnerability fails to account for the complexity of risk faced in the region. It is necessary to use intersectionality as an approach for examining the dynamics involved in identifying why some people face greater risk than others and how elements of identity influence the lived experienced of persons and increased their vulnerability. Gender and age were identified as the two most critical elements highlighted in the GASBI Model and applied specifically for adolescent girls in the GIRRL Programme. Adolescent girls are considered one of the most vulnerable groups in the region and their interests must be prioritised and integrated into DRR in order to protect the needs of a group that faces significant risk. This is especially true in light of the growing exposure to climate related hazards. Currently, DRR in the Southern Africa region fails to acknowledge the needs of this group, nor recognise the value of intersectionality as a tool for appreciating the complexity of vulnerability.

6.6.4 Further Research Opportunities and Advancement

A number of opportunities exist for further research as well as output. The value of examining the country specific dimensions of the project in greater detail would provide a more concise picture of the context in Lesotho, Malawi, Zimbabwe and Zambia and potentially guide further interventions. Effort should be made to expand the research to other countries in Southern Africa with the aim of understanding national knowledge as well as comparing country contexts for an even more detailed appreciation of the region as a whole. There are opportunities to replicate the GIRRL Programme Model and currently, it is being implemented in Botswana, Namibia, Mozambique and Swaziland. The outcomes of data collected should provide a rich base from which to look at a comparing the similarities and disparities across these eight countries.

In terms of further advancement, the overall findings seek to acknowledge and promote the value of gender and age considerations in Southern Africa disaster risk context, however, the application of the resulting GASBI Model emphasises the need to encourage the value of intersectional studies and practical applications of this knowledge at the local level through the implementation of interventions such as the GIRRL Programme.

One of the critical areas of focus and achievement for the GIRRL Programme and the GASBI is not just encouraging inclusion but rather promoting leadership. Of particular relevance to the GIRRL Programme is the recognition of girls' leadership in disaster risk reduction activities at community level to not only contribute their input but more so to ensure that their unique experiences and voices are heard and included in the policy and praxis. The skills and dynamic contributions of persons who are often inhibited stereotypes ascribed across gender and age lines, must be involved and given the opportunity to lead change.

Given the prevailing gaps in research, in terms of the study of adolescent girls and the need for intersectional studies for understanding risk, the topic is of particular relevance as a source of inspiration and guidance for conceptual development in line with the Sendai Framework for Disaster Risk Reduction (SFDRR), which also frames girl's leadership rather than simple inclusion.

SECTION D: CONSOLIDATED BIBLIOGRAPHY

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SECTION E - APPENDICES

7.1 Consent Form -Integrating Adolescent Girls in Community Based Disaster Risk Reduction in Southern Africa (IAG) Project

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June 10 2013

Consent Forms for Minors (Age 18 or Younger)

Integrating Adolescent Girls in Community Based Disaster Risk Reduction in Southern Africa (IAG) Project

Title of the study: A New Protocol in Disaster Risk Reduction Policy and Praxis for the Southern Africa Region: Gender Age Socio-Behavioural Intervention and the GIRRL Project Model (Ethics number pending)

Researcher: Kylah M. Forbes-Biggs PhD. Student Development and Management Studies, Student # 21734798 (biggsk77@gmail.com)

Supervisor: Prof. Dewald van Niekerk, Director of the African Centre for Disaster Studies, Faculty of Arts, Social Transformation (Tel: 018 299 1620, dewald.vanniekerk@nwu.ac.za)

Invitation to Participate: Strategic persons involved in the direct or indirect implementation of the Integrating Adolescent Girls into Community Based Disaster Risk Reduction in Southern Africa Project (IAG) will be invited to participate in the abovementioned research study conducted by Kylah Forbes-Biggs *(with assistance from student Tichaona Muzuma who has been identified as a local student researcher in Zimbabwe)*.

The Study: The purpose of the study is to look at the how social conditions and practices add to the vulnerability of certain persons to disasters (particularly adolescent girls in Zimbabwe). The study seeks to examine how the Integrating Adolescent Girls into Community Based Disaster Risk Reduction in Southern Africa Project (IAG) being implemented by CARE Zimbabwe can help to reduce the disaster risk faced by adolescent girls and their communities by examining the process, target group, community involvement and participation.

Participation: We are asking for your assistance through consenting to a short interview with our research student wherein questions will be asked about your opinion of and involvement in the project. The interviews will take place in a venue suitable to both the research student and yourself. Depending on your answers and your involvement in the project, the interview session should take no longer than 30 minutes of your time.

Risks: Your participation in this study may involve you expressing personal opinions about the project and the issues covered. However, the submission of this form ensures that you have the commitment from the researcher and the research student that every effort will be made to protect your identity including: Not using your name or any contact details in the final report, as well as the safe storage of all documents and interview transcripts, in a secure area at North-West University.

Benefits: My participation in this study will help researchers to understand the social conditions in the project community including some of the issues and concerns that you (as parents, project staff, participants, team leaders and stakeholders) have which need to considered in order to enable acceptable future change and to help support our girls. The recommendations will be submitted to CARE Zimbabwe, CARE USA, and any interested parties as a tool for guiding future project planning. It must be understood that there is **no** commitment/guarantee by any of these organisations for future funding **nor** will any individuals who participate in the interviewing process be paid (cash or kind) for their involvement. Your involvement in the interview is purely voluntary and must be seen as a contribution to advancing your community. The payment of research participants is unethical in research.

Confidentiality and anonymity: You have received assurance from the researcher that the information you will share will remain strictly confidential. You should understand that the data you provide will be used to: *compile a summary report to evaluate the contributions of the project to the community and to the adolescent girl population, guide Programme planning in CARE Zimbabwe, and CARE USA, supply content for a local student to complete a research article/thesis and serve as the foundation for a PhD thesis by the lead researcher.* Your personal confidentiality will be protected through the use of 'coding' (i.e. Mr X or Participant 12)*, however the use of organizational names (i.e. CARE Zimbabwe, North-West University, the District Disaster Centre) may be used for establishing context.*

Conservation of data: The data collected *(tape recordings of interviews, transcripts, notes, etc.)* will be kept in a secure manner *in a locked storage room on the North-West University Campus only accessible by the researcher, supervisor and the Director of the Research Focus Area (Prof. Andre Duvenhage) The data will be retained for a period of seven years before being destroyed.*

Voluntary Participation: You are not under any obligation to participate and if you accept the opportunity, you may still withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. Your participation will be

Minor's Acceptance: I, _____ (Name of participant), age _____ (years) agree to participate in the above research study conducted by: Kylah M. Forbes-Biggs of the African Centre for Disaster Studies, Faculty of the Arts, Research Focus Area Social Transformation, which is under the supervision of Prof. Dewald van Niekerk.

Parental Consent: I,_____, parent/guardian of the child listed above, agree to allow this child to participate in the above research study conducted by: Kylah M. Forbes-Biggs as detailed in this form.

If I have any questions about the study, I may contact the researcher or her supervisor.

If I have any questions regarding the ethical conduct of this study, I may contact the Research Officer, Mr Willie van Wyk, Social Transformation Focus Area, Faculty of the Arts, North-West University, Potchefstroom Campus, North- West University, Potchefstroom, North-West Province, Republic of South Africa 2531 Tel.: (+27) 018 299 1751, Email: willie.vanwyk@nwu.ac.za.

There are two copies of the consent form, one of which is mine to keep.

Researcher's signature: Kylah Forbes-Biggs 

Supervisor's signature: Prof. D. Van Niekerk 

Student Researcher's signature: Tichaona Muzuma X

Participant's Name: _____

Participants Signature: _____

Date: _____

Proceedings of the Second

ANDROID Doctoral School in Disaster Resilience 2014

Work Package III

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The ANDROID Doctoral School is a core element of the ANDROID disaster resilience network with a mandate to strengthen the link between research and teaching in the area of disaster resilience. The interdisciplinary mixed teaching space that we have developed as part of this ongoing project encouraged and promoted the work of doctoral students in this field. Furthermore, the doctoral school provided an opportunity for the development of a supportive interdisciplinary community of researchers in the area of disaster resilience.

The ANDROID disaster resilience network doctoral school consists of two programmes:

1. Online Doctoral School (ODS) and
2. Residential Doctoral School (RDS)

The interlinked programmes work together to deliver on a number of teaching and research driven objectives. The Online Doctoral School, conducted in Spring 2014, provided an innovative platform for developing an interdisciplinary knowledge base for the doctoral candidates. A total of 44 doctoral candidates representing 27 countries participated in the two-day online programme. The school offered a series of live presentations by domain experts in disaster resilience around the world, an opportunity for discussions between experts and students and thematic sessions aimed at engaging the students in knowledge discovery and identification of shared problems and issues through detailed discussions fully exploiting the state of the art facilities in online programme delivery.

The Residential Doctoral School programme (2014) was used as an opportunity to build on the outcomes of the Online Doctoral School by actively engaging doctoral student work through presentations, domain expert feedback and intensive discussion during the annual meeting of the Android Disaster Resilience Network. All participating students developed and submitted an original research piece (based on their doctoral studies) that was peer reviewed by experts within the field. The RDS process includes a limited number of scholarship awards to attend a three-day event which entails a panel review of the work of the students and dissemination of this work to a wider audience. A total of 26 papers double peer reviewed and edited through the doctoral school team were presented at the RDS 2014. All presenters were successful participants of the online doctoral school, ODS 2014 held in March 2014.

The residential portion of the school was held from the 8th to the 10th of September, 2014 in the MediaCityUK, Salford Quays in Manchester runs in parallel with the 4th International Conference on Building Resilience which incorporates the 3rd Annual Meeting of the Android Disaster Resilience Network. The conference event itself has been jointly organised by the Centre for Disaster Resilience, University of Salford and the ANDROID Disaster Resilience Network, in association with the United Nations

International Strategy for Disaster Risk Reduction (UNISDR) Making Cities Resilient: ‘My City is getting ready!’ campaign.

This volume presents concise summaries of the contributions of all the doctoral papers presented at the RDS (2014), produced and developed by doctoral students with the guidance, direction and suggestions of a group of experts led by the ANDROID Doctoral School team. These papers demonstrate the richness, diversity and interdisciplinary nature of research topics and problems being tackled by disaster resilience researchers. Furthermore, we see here example of discovery and expansion of research themes that go beyond disciplinary boundaries, reflecting on the greater context of disaster resilience. The work of the doctoral researchers presented here is a valuable contribution to the body of knowledge which, given the growing vulnerability and exposure to disasters of human and natural origin, depends on the development of greater interdisciplinary expertise among the scholars of the future.

Further information on the ANDROID Doctoral School can be found at: http://www.disaster-resilience.net/index.php/doctoral-school-2014.

A New Protocol in Disaster Risk Reduction Policy and Praxis for the Southern Africa Region: Gender Age Socio-Behavioural Intervention and the GIRRL Programme Model (As Published in the Proceeding of the ANDROID Conference)

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ABSTRACT

Gender and age considerations are not prioritised within the context of disaster risk reduction (DRR) policy and praxis in Southern Africa. Research suggests that the impact of gender and age considerations within DRR is under-estimated or undervalued. The primary reasoning for this undervaluation is based on socially exclusive practices, which derive from unequal power allocations within the social context. This inequality is evident in stereotypes and biases, which limit various aspects of life for the affected. 'Age' and 'gender' are delineations by which power is allocated. As a result, those individuals, who fall into these negative aspects of the categories, depending on the scenario, are often pushed to the periphery of society. This peripheral positioning also creates greater vulnerability and hence greater exposure to disaster related risk for the demographic. The Gender Age Socio-Behavioural Intervention (GASBI) Model, employing the GIRRL (Girls in Risk Reduction Leadership) Project multi-site case study will be introduced as a means of addressing the deficiencies in DRR policy and praxis in Southern Africa and will serve as a new protocol for guiding the integration of gender and age considerations into praxis.

Keywords: Adolescents, Disasters, Girls, Risk Reduction, Southern Africa.

INTRODUCTION

The global trends suggest that adolescent girls "have been ignored; their views unheard and their needs unmet" pertaining to disasters, humanitarian response and development initiatives (Plan International 2013 p. 9). There has been a "one-size fits all" approach rather than collecting specific data requisite for creating effective and efficient programmes designed uniquely for adolescent girls (Plan International 2013 p. 9). Research suggests that the impact of both gender and age considerations (reflected in the demographic of 'female adolescents') within disaster risk reduction (DRR) is under-estimated or undervalued (Plan International 2013). The primary justification for this undervaluation is socially exclusive practices derived from unequal power allocations within society (Plan International 2013; Rashid & Shafie 2013). The term social exclusion refers to "the process by which certain groups are systematically disadvantaged because they are discriminated against on

the basis of ethnicity, race, religion, sexual orientation, caste, descent, gender, age, disability, HIV status, migrant status or where they live (Rashid & Shafie 2009 p. 17)."

Gender and age based disadvantage and exclusion is prevalent in many traditional cultures within the Southern Africa region and is evident of practices such as those that limit the access of women and adolescent girls to land ownership, finance and education, as well as dissuading them from participation in decision making and public forums (UNICEF 2006). This disadvantage and discrimination has also been documented where adolescent girls as a group have been exposed to alienation within the context of disaster reduction or emergency response programmes (Rashid 2009 p. 17). Limited studies in Africa (Ethiopia, South Sudan and Zimbabwe) have revealed that girls were the most negatively affected in disasters based on factors linked to discriminatory practices such as greater workload, limited opportunities, early marriage, negative general attitudes towards girls as well as failure to consider special needs of girls (i.e. limited strength and vulnerability to disease) (Rashid, 2009). The United Nations (UNISDR, 2009b p.30) refers to vulnerability as being the characteristics and circumstances of a community that make it susceptible to the damaging effects of a hazard. It is evident that social exclusion in Southern Africa contributes to disadvantage which reinforces the vulnerability of adolescent girls to disasters (Hoogeveen *et al.,*2005).

DRR policy and praxis reveals that gender and age based considerations are not being prioritised and actualised in Southern Africa. This failure is even more significant in light of the realisation that more women and girls die as a result of disasters than men making not just gender but age a significant factor in disaster risk (Plan International, 2010; Enarson & Morrow, 1998; Plan UK, 2010). The concept risk is described in this context as the potential disaster losses, (lives, livelihoods, assets) which could occur to a particular community (UNISDR, 2009:30).

The growing adolescent demographic which makes this group the majority population in the region, and the fact that climate change is increasing the frequency and intensity of natural hazards along with increasing the risk of disasters further reiterates the need for gender age considerations in DRR efforts (UNDP, 2004). However, this failure presents an opportunity to address the current inadequacies involved in reducing the risk faced by those influenced by gender and age related exclusion. The opportunity is capitalised by the creation of a new framework targeting specific criteria including: gender, age, socialization/social conditions and behaviour modification. The proposed Model has been termed the 'Gender Age Socio-Behavioural Intervention (GASBI)'.

The research will introduce GASBI as well as highlight a case study of the Girls in Risk Reduction Leadership (GIRRL) Programme' which seeks to serve as an application of the GASBI. The GIRRL Programme was implemented at five sites within the Southern African region including South Africa,

Zimbabwe, Zambia, Lesotho and Malawi through a Provention Consortium grant and subsequently replicated with support from the Government of South Africa and the 'CARE' organisation.

GENDER AGE SOCIO-BEHAVIOURAL INTERVENTION- THE CONCEPT

In response to the acknowledged need for gender and age considerations in disaster risk reduction policy and praxis in the Southern Africa region following neglect, the GASBI is offered as a Model for addressing the neglected issue. GASBI is being proposed as a practical and localised approach to specifically identifying and addressing the unique social drivers of vulnerability for a target group (defined by both age and gender). The intervention Model is derived from a strategic combination of leading theories linked to disaster risk, vulnerability and social practice to address deficiencies and weaknesses in current policy/practices for addressing risk in highly vulnerable groups such as adolescent girls (Cutter *et al.* 2003; Wisner & Luce 1993).

To be effective GASBI needs to be operationalised at the community level with the collaboration of multiple, local stakeholders and the input of the participants. The practical application should take into consideration the social context and would involve an assessment of the community and the needs of the target group in order to contextualise their specific vulnerabilities and how they fit within the broader community. The approach then applies strategic activities oriented toward developing positive behaviours through the appreciation of social processes and practices, in order to facilitate the reduction of vulnerability and to create community resilience.

GASBI first recognises disaster theory, particularly supporting the works of Perry (2007), Renn (1992) and Mileti (1999) which supports that disasters are social functions influenced by social conditions and practices. GASBI acknowledges the need to integrate considerations regarding social context in order to effectively seek to reduce risk. Braveman provides a definition of social conditions as being "the array of social, economic and political circumstances including the built environments that strongly shape and are shaped by those circumstances, in which people live and work (2010 p. 32)". This acknowledges that disasters are influenced by social conditions and as such effective DRR must take social factors into consideration.

The second framing theory used to justify the validity of GASBI recognises the disparities of disaster impact across social groups. Vulnerability theory suggests that certain individuals or social groups possess characteristics that impair their ability to withstand adversity according to Adger (2006), Füssel (2007) and Cannon (2017). Inequalities derived from characteristics associated with age, gender, religion and disability can limit or exclude access and power in society, which restrains their ability to rebound following hardship (Wisner & Luce 1993). The combination of multiple characteristics such as age and gender increases the vulnerability of the group. DRR should recognise the need to prioritise persons/groups, which are least able to resist disaster related harm.

The GASBI Model borrows from Social Practice theory based on its ability to acknowledge additional variables such as moral norms, beliefs, cultural context, past behaviours and self-identity as influences on behaviour (Berger & Luckmann 1991; Hargreaves 2011). This Model recognises that individuals do not live in a social vacuum but in reality, their circumstances and local context can override all cognitive factors (Hargreaves 2011). Hence the efforts to promote positive risk reduction activities and actions cannot be solely influenced by direct efforts to change individual attitudes, values and beliefs but are often constrained by contextual factors embedded within social practices (Hargreaves 2011; Warde, 2005). It is critical understand not only how social factors of a particular context contribute to individual behaviour but also to appreciate that efforts at remediation must take place not just with the individual but also at the community level. The GASBI Model supports efforts to positively modify behaviour while taking into consideration the practices and interconnected elements that contribute to risk within the community.

DISASTER RISK REDUCTION POLICY AND PRAXIS - A REGIONAL PERSPECTIVE

There is a lack of binding legislation governing the Southern Africa region as a whole, and as a result the analysis of policy will rather focus on the courses of action, regulatory measures and priorities for funding identified by regional representative bodies. The United National International Strategy for Disaster Reduction (UNISDR) Africa Region seeks to support the region's attempt to implement the Hyogo Framework for Action (HFA) in DRR (Vordzorgbe, 2006). The HFA derived from the World Conference on Disaster Reduction (2005) represents the course of action for achieving DRR from a global perspective and has been adopted by many countries in Southern Africa including Zambia, Zimbabwe, Lesotho, Malawi and South Africa (UNISDR 2013). The HFA promotes the prioritisation of five key actions including the need for national and local prioritisation of DRR, the identification and monitoring of risks and the use of early monitoring systems; the creation of a culture of safety through information and innovation; the reduction of risk factors; improved effectiveness of disaster preparedness at multiple levels (UNISDR 2005 p 6).

The UNISDR in their follow up summary report for the period 2011-2013 confirmed the limitations that exist in the actualisation of the HFA. This admission reflects the difficulties in achieving praxis in the region. Although referring broadly to the African context, the report emphasises the following deficiencies including: the need for building community resilience, ensuring access to women and children are involved in DRR; promoting the engagement of youth in environmental protection, climate change adaptation, economic empowerment and information sharing, as well as the importance of involving the contributions of youth in DRR activities (UNISDR, 2013).

There is an emerging sentiment reflected in the most recent statement regarding Africa's contribution to the post 2015 HFA made by the 5th Africa Regional Platform and 3rd Ministerial Meeting for

Disaster Risk Reduction. The statement made distinct recommendations including the need for public participation by youth, children and women to help ensure that their leadership and capacities are enlisted in risk reduction efforts which reflected the previously mentioned deficiencies (UNISDR 2014 p 2). Further references are made to the recommendations for institutionally linking stakeholder forums including women's and youth groups (UNISDR 2014 p.3). The Statement however in acknowledging the need for including specific groups such as youth, children and women, however this call for action has not yet been reflected practice. The document reiterates the realisation of Africa's large and growing youth population as a significant consideration in efforts to reduction risk in the region (UNISDR 2014 p.3).

The African Union (AU) as another regional body has further validated the need to prioritise the development of institutional frameworks, good governance practices, emergency response, risk identification and knowledge management as key aspects of the risk reduction strategies (AR-DRMU 2010). The Southern African Development Community (SADC) Disaster Risk Reduction Unit (DRRU) further supports the inherent and imperative need to prioritise risk reduction. However, despite its intent, the position of DRRU policy is generally criticised for its overly idealistic nature and failings to prioritise local level actualisation (AR-DRMU 2010; International Resources Group Ltd 2001). The implications are most widely seen at community level wherein the need to focus on specific groups and encourage gender and age considerations are insufficient (AR-DRMU 2010). Its' directives are devoid both of the explicit recognition of vulnerable groups and the acknowledged need to specifically target these groups through local level initiatives (International Resources Group Ltd 2001).

Hence to date the gap in DRR policy and praxis in from a regional perspective pertaining to the gender age considerations still exists to a great extent and creates a void that needs to be addressed and acknowledged. The recent call for the inclusion of women, children and youth is a moderate effort but this has yet to bring about the marked change necessary to take Southern Africa's DRR to a state of gender–age maturity.

SOUTHERN AFRICA DISASTER POLICY

The majority of countries within Southern Africa have some form of disaster-focused legislation, which aims at providing policy guidance. It is apparent that much of the independent country legislation is weighted down with descriptions regarding the structural hierarchies of national and sub-national disaster management entities and less on how DRR should be actualised. Most legislation is dominated by details regarding structural organisation, power allocations (within each

country) and the mandates of each entity in terms of responsibilities, protocols and reporting, such is found in five of eight sections within the Lesotho Disaster Act (GOKL 1997).

It should be noted that significance is linked not just to what the legal directives state but also what information is implicit. Some of the Southern African countries fail to make reference to central ideas associated with disasters such as 'risk', 'vulnerability', 'capacity', 'exposure' and 'hazards'. The national disaster legislation from Lesotho for example fails to make reference or acknowledge the term 'vulnerability' which could be argued as being one of the core elements necessary for addressing risk (GOKL 1997). On the other hand, the South African and Zimbabwean legislation both fail to specifically recognise terms such as 'gender', 'youth' or 'women' (GoSA 2002; GoZ 1989) which could construe the lack of prioritisation in national disaster legal framework and have negative repercussions for directing praxis. Alternatively, Zambia's Policy document provides definitions of the term 'gender' in its glossary stating its reference to:

…Social and economic differences between men and women that are learned, changeable over time and have wide variation within and between cultures. This is opposed to sex that refers to the biological differences between men and women. Gender is used to analyse roles, responsibilities, constraints and opportunities of men and women in development (DMMU 2005 p.vii).

Zambia further provides the recognition that disasters do favour certain groups by indicating that "disaster effects are gender selective, affecting mostly women, children and elderly, hence gender consideration in disaster management shall be prominent at all levels (DMMU 2005 p 14). This document fails to neither expand on this notion nor give clear guidance as to how this should be done in practice. Although there is reference to 'children and the elderly' also, there is no acknowledgement that specific age considerations should be made. According to the introductory section, despite references to the participation of civil society, multi-levels of government, management/technical/review committees as well as the mining industry, the Truckers Association of Zambia, utility companies and Lusaka Water and Sewerage, there was no reference to involvement of either women's or youth groups (DMMU 2005 p. iii). The policy does direct the inclusion of women for the Satellite Disaster Management Committee by stating "two men and two women (to be) selected to represent the community (DMMU 2005 p.29)." In Part IV Section 2 subsection (a-o), of the Lesotho legislation, there is a detailed list of District Disaster Management Team members however despite references to church members and representatives from the schools, there are no provisions made for persons representing women's or youth groups (GOKL 1997).

The overview of Southern Africa's disaster policy finds it broad and incomplete. The need to provide more specific references to cover gaps in areas such as acknowledging the value of gender and age

considerations as well as guiding the implementation of these considerations in praxis would make a significant contribution to the value of the policy.

SOUTHERN AFRICA DISASTER RISK REDUCTION PRAXIS

In a report summarising DRR praxis in the Southern Africa region, it was acknowledged that ex-ante activities were focused on four main areas including technical assistance, sector activities, advisory services and leveraging investment (AR-DRMU 2010 p14). Specific activities were identified as general awareness, policy support, institutional strengthening, risk mitigation and investment, supporting risk finance systems, as well as improving emergency response and preparedness (ARDRMU 2010 p. 14).

The focus for DRR praxis has been rooted in community based projects, many focusing on water and sanitation, food security and sustainable livelihoods; risk and vulnerability assessments; climate change adaptation and early warning systems development; education, awareness and capacity building for communities and government (USAID 2011; UNICEF 2009; Plan International 2013; Oxfam Zambia 2014). The majority of these projects were led and funded by donor agencies such as the Department of Foreign International Development, United Nations Children's Fund, Catholic Relief Services, The Red Cross, Oxfam, CARE, United States Agency for International Development, the World Bank and the United Nations Development Programme. Many of these projects work in partnership with local governments in order to build institutional capacity of government workers as well as for local community members with governmental stakeholders or partners. However, the lack of government led practical action is suggestive of their limitations in instigating praxis. Leading agencies present DRR projects with statements such as 'targeting vulnerable Zimbabwean farmers' or 'benefiting 45000 individuals and schools' (USAID 2011 pp. 6-7). These references overlook specific details such as the involvement or focus on women, adolescents or children who do make contributions to projects or who attend awareness programmes at local schools. This lack of specificity leaves vulnerable groups non-prioritised and fails to benefit those most distinctly at risk. The combination of both age and gender considerations fail to be acknowledged together in the context of many examples of DRR praxis.

THE GIRRL PROGRAMME

The GIRRL Programme serves as the application of GASBI in praxis, highlighting the need to remediate or reduce the negative effects of socially exclusive practices, which are prevalent features in many Southern Africa traditional cultures (UNICEF 2006). The imbalance caused by the exclusion, results in adolescent girls often having a lack of social voice. The socially exclusive practices reinforce the idea that girls are victims and are powerless particularly in the context of hazards and disasters. The concept of dependency and weakness is further reinforced through the prevalence of

physical and sexual violence, poverty, dependence on alcohol and drugs, forced prostitution, teenage pregnancy and exposure to disease (HIV/AIDS, sexually transmitted infections) such is the scenario in many informal settlements of South Africa and Zambia (Forbes-Biggs & Maartens 2012).

The GIRRL Programme seeks to overcome the effects of social exclusion through the application of the Participatory Action Research (PAR) approach as the foundation for the initiative. The PAR process supports cooperative enquiry to examine existing practice, reflect on and improve strategies, skills or techniques necessary to help improve life conditions of the girls involved (Krimerman 2001). In this instance, adolescent girls engaged in GIRRL, will seek to understand how they can use information to make better decisions and how new skills can help reduce their vulnerability and build resilience.

The GIRRL Programme sought to address the issue of risk reduction by minimising the social vulnerability of adolescent girls through its focus on gender and age specific capacity building activities for empowerment and enabling agency (Forbes-Biggs & Maartens 2012). Originally implemented in Ikageng Township (South Africa) in 20078 through funding from Provention Consortium (Forbes-Biggs 2008), the Programme received support from the Dr. Kenneth Kaunda Municipal Disaster Centre and was replicated in three additional sites in the district (Tshwelelang, Tching, Kanana).

The GIRRL Programme methodology was instigated as a multi-session (15-25 based on the needs of the group, held twice weekly for 3-5 months) training and participatory information-sharing Programme, engaging twenty adolescent girls (aged 13-19 years) per site who would be developed as leaders for building resilience within their communities. Girls were identified by project leaders and school officials based on specific criteria including: experienced poverty, aged 13-19 years old, being female and willingness to help others. The capacity building was conducted through the provision of interactive, participant driven training and information sharing in areas such as personal (mental, physical and sexual) health, self-defence, peer education, decision-making, first-aid, fire safety, environmental awareness, community-based disaster risk assessment and effective communication. Each session was carefully adapted to the specific community context through the initial insight of project leaders, stakeholders and key persons from within the locality but then shaped by the extensive contributions of the girl participants (Forbes-Biggs & Maartens 2012). Following the sessions, the participants hosted a community awareness based on their perceptions of hazards and threats in the area. Song, poetry, drama and dance were used to convey their targeted messages to help build community resilience.

The Programme's objectives included: to train twenty adolescent girls as leaders to improve individual and community capacity; to develop human capacity to improve survival skills of vulnerable

communities, to engage girls in risk reduction activities; to promote girl participants as role models for their communities particularly related to DRR; to establish a culture of 'community of safety' and awareness through the active involvement of and information dissemination of adolescent girls; to encourage great participation of girls and vulnerable communities in DRR; and to develop positive relations between key players in DRR including coordinating entities, stakeholders, and empowered youth to help establish participatory-based community based disaster planning (Forbes-Biggs 2008 p. 4).

In 2012, CARE and the African Centre for Disaster Studies (ACDS) partnered for the implementation of a regional learning and pilot activity in Southern Africa based on the GIRRL Programme, in Zambia, Zimbabwe, Malawi and Lesotho. Each country implemented an initial pilot of the GIRRL approach adapted to their local context. A detailed analysis of the GIRRL Programme is necessary to confirm its strengths, weaknesses and relevance as a practical application of GASBI through activities such as an analysis of risk perception, perceptions of self, participation in DRR activities, as well as a comparison of output measured against the tenets of the HFA to gauge its contributions to disaster risk reduction.

CONCLUSIONS

It has been presented that DRR policy and praxis in the southern Africa region has not reached a stage where it is ready to recognise and prioritise the needs and contributions of distinctly vulnerable sub-groups such as adolescent girls. The study sought to present a radical new protocol, the GASBI, for dealing with issues surrounding vulnerability, which are not adequately addressed but necessary for the effective disaster risk reduction policy and praxis in Southern African context. The GASBI, endeavours to link theories regarding disaster risk, vulnerability, and social practice in young people, to the practical application of unique participatory gender age intervention targeting the specific needs and opinions of vulnerable adolescent girls through socially targeted behaviour change. The study builds on the international recognition of the participatory action research focused GIRRL Project as a case study while seeking to document its contributions to youth and gender considerations in disaster risk reduction.

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Action Research Journal Author’s Guide

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Authors

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Van Niekerk, Dewald

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Accepted for indexing by Thomson Reuters
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Commun. 163 (2010) 51–59.
Reference to a book:
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This serves to confirm that I undertook the editing of the main body of the abovementioned thesis on behalf of Kylah M. Forbes Biggs (Genade). I gave firm changes, which she applied as well as recommendations to improve readability.

Should you have any queries, please contact me on 083 442 7715

Kind regards

Elizabeth Sibanda

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