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Leveraging Schools Systems As A Locus For Disaster Risk Reduction In Zimbabwe

Shepard Mutsau[1]* and Ednah Billiat[2]
1 and 2. Zimbabwe Open University, Department of Development Studies

Abstract

Disasters have become a déjàvu in many societies globally. The interaction between climate change and the ever increasing levels of poverty increase community vulnerability to disasters which weaken community resilience to disaster impacts. Such a scenario demands development practitioners, planners and scholarship to find novel ways of increasing community resilience to the ever increasing threat. This study focused on how school systems as key societal institutions may be maximally utilized to increase disaster risk reduction in communities. Societal institutions are primary influencers of norms, values, and behaviors in people. After family, the school is the second most significant primary socializing institution responsible for the development of people's attitude, knowledge, behaviors specific skills and values to ensure social conformity. This study examined the potential for leveraging school systems as a locus for increasing disaster risk reduction in vulnerable communities in Zimbabwe. The study found that there are many positive outcomes which can be realised if disaster risk reduction is mainstreamed through the education school systems in Zimbabwe. The distribution of schools across Zimbabwe, its ability to target the mass, the improved level of school attendance, the high school -parents interaction and the fact that schools are the primary development focal points in communities in Zimbabwe present opportunities for improving disaster risk reduction through school s in Zimbabwe as it acts as a magnet that pulls the community at one epicenter.

Keywords: disaster risk reduction, school education, community resilience

1. Introduction and background

Problems caused by disasters have become a concern to African governments causing a threat to meeting the development goals and sustainable development (OFDA-CRED, 2002, IFRC, 2011, SADC, 2012). Analysis of statistic surveys for natural disasters over a 30-year period indicates increasing frequency of disasters (Lukamba, 2010). Disasters in Southern Africa have been increasing since 2000(SADC, 2012).Southern Africa is placed third as far as disaster events frequency is concerned (Lukamba, 2010). According to Loretta (1996), 60% of disaster related deaths come from African countries. Records on top 10 disasters in Africa indicate that between 1980 and 2008, reported that 1699 disaster events occurred and 708712 people were killed, leading average number of people killed a year to be 24438 and 319465876 people were affected in the same period giving an average of 1106065 per year(EM-DAT,2008).The same source estimated that economic damages incurred at this period were estimated at 24 billion141 million giving an average economic damage of 823million.Given the problems of data management and underreporting in Africa due to development challenges ,the figure could be more than the presented figures. However, these figures save the purpose of indicating the urgent need for up-scaling disaster risk reduction in Africa. The most common type of disaster affecting Africa are droughts affecting countries like Kenya, South Africa, Ethiopia, Ghana, Sudan, Malawi, Zimbabwe. Data indicates that epidemics are common in Ethiopia, Sudan, Nigeria, Niger, Burkina Faso, and Sudan. Data indicate that economic damages are mostly high in Algeria, Zimbabwe, Egypt, Mozambique, Morocco, Mozambique, and South Africa (Guha-spair et al 2011) .The foregoing statistical data saves to testify the seriousness with which disaster risk reduction must be treated in Africa. Evidence shows that 2011 disaster frequency increased more than registered in 2010 (Guha-spair et al 2011). Human and economic impacts of disaster increased in 2011 killing 30773 million, affecting 244.7 million people globally, and generating an economic loss estimated at US366.1 billion. In terms of ranking of disasters, Asia was the ranked top in 2011 with 44.0% and Africa third with 19.3% contributing 9.2% of global disaster victims (Guha-Spair et al 2011). However, it must be noted that estimations of disaster data in African states and Zimbabwe also remain a challenge because of poor data collection systems, data inconsistencies, underreporting and unreported cases. Because of regional development differential variability among continents, Africa is most affected by disasters and often finds post disaster difficult than developed continents. Thus, the large numbers affected in Africa signal the need for formulating disaster intervention management methodologies and strategies, which target the masses and reach the grassroots levels of the community to increase the resilience to disasters at grassroots levels. One of the most effective mass targeting strategy is through leveraging school education systems as a locus for disaster risk reduction. This paper takes a closer look at Zimbabwe's opportunities for putting school education systems at the epicenter of disaster risk reduction with the objective of achieving grassroots disaster risk reduction and resilience. The paper further suggests some recommendation towards making school education systems a locus for disaster risk reduction initiatives.

Zimbabwe has experienced an increase in hazardous events including diseases outbreaks, floods, droughts,

and storms. Evidence shows that disasters are likely to increase in Zimbabwe particularly those that are weather related. Statistics indicates that over the last several decades, Zimbabwe has experienced warming of over 1degree Celsius and there is evidence that Zimbabwe has began to experience more hot days that cold days (GoZ.2013). This increasing threat affects millions of people and there is need to establish a cost effective system, which increases the resilience of the mass. The exclusion of school education system from the centre of disaster risk reduction is tantamount to removing the key driver of community development on the disaster risk reduction equation thereby increasing the gap between national and local action to the detriment of community resilience. The education and school system is the rallying point for community socio-economic development and failure to prioritize it in disaster risk reduction results in retarding community resilience to disasters, this creates problem. Schools are the most appropriate venues for sawing collective venues in a community and disaster risk reduction forms one of the paramount values that schools must propagate through creating schools as modes and locus of participatory risk reduction in communities,(UNISDR,2007,Vii). There is need for leveraging schools-education systems as a locus for disaster risk reduction to improve community resilience to disaster in Zimbabwe.

2. Methodology

An examination of disaster management instruments and documents was carried out. National disaster management instruments, which include The Civil Protection ACT of 1989, Zimbabwe National Climate Change Response Strategy (2013),Environmental management Act Chapter 20:27,the Zimbabwe National Contingency Plan (2012), the National Disaster Contingency Plan 2012-2013) and other international instruments which include the Hyogo Framework for Action (2005-2015 and the Sendai Framework for Disaster Risk Reduction 2015-230 were examined. These were analysed in the context of the Zimbabwe Education Act [chapter 25:04]. Key informants were sampled from these institutions.

3. Theoretic framework

The Hyogo Framework for Action 2005-2015 and the Sendai framework for Disaster Risk Reduction 2015-2030 were used to guide this study. The Sendai Framework for Disaster, adopted in Japan in March 2015 as a successor to Hyogo Framework of action ran from 2005-2015. Its ethos is building resilience of nations and communities to disasters. The Sendai framework ensures continuity of the efforts initiated at the Hyogo Framework of action. The Sendai Framework is relevant in this study in that it brings emphasis on community resilience to disasters and schools are centers of community development in Zimbabwe. Furthermore, school students are the most important vehicle of disaster knowledge in a given community. The Sendai Framework brings in the schools, students and their parents as well as their administrators (teachers, heads) as important stakeholders in disaster management since one of its emphases is recognition of stakeholders and their roles. This makes school education system and its immediate players as key stakeholders in community disaster risk reduction and resilience.

4. Geographical distribution and typology of disasters in Zimbabwe

More than 70% of natural disasters are weather and climate related (WMO, 2007).In Zimbabwe, three types of disasters dominate the top disaster occurrences in Zimbabwe. These are epidemics, drought and flood induced disasters (Thieme-Groen 2012, CRED 2012, Guha-Sapir 2009). In Zimbabwe, regions V and IV are drought prone areas and they constitute two thirds of the country indicating high drought vulnerability. These include Matabeleland North (iv) Matabeleland South, Masvingo, part of Manicaland, part of Mashonaland Central, in the lower basin and some part of Midlands. Flood prone areas include Matabeleland North up to Victoria Falls, parts of Matabeleland south to Beitbridge and part of Manicaland and Mashonaland Central (UN-OCHA, 2008).Because of climate change, there is need to redraw climatic regions in Zimbabwe to establish prices distribution and boundaries of disaster prone areas. However, the tendered distribution saves the purposes of the study at hand.

5. Literature

Education and disaster risk reduction is an iterative process of mutual learning between people and institutions. Therefore, central to disaster risk reduction and education is productive sharing information and knowledge so that people can make informed decisions to improve their resilience.[1] Literature indicates substantial success in mainstreaming schools in disaster risk management processes (Wisner 2006, Campbell and Yates 2006, UNISDR2007, ISDR 2007). In India, it resulted in the improvement of community rescue, survival, and evacuation skills. In Nepal, the success was registered in mainstreaming DRR into the education curriculum

[1] www.unisdr.org/we/advocate/education

(ADMN, 2007). Bangladesh (Shaw et al 2011), Malawi, Ghana, and Kenya are examples, which show the utility of placing school education systems at the Centre of DRR. In Mali, DRR was introduced in classroom before mainstreaming it into school Curricula, In Indonesia; disaster teaching is done in primary school (UNISDR, 2007). Cape Verde and Sri Lanka institutionalized disaster risk reduction in teacher training. Schoolchildren are disaster risk reduction catalysts and initiators in Thailand (UNISDR, 2007). All these countries testify the feasibility of disaster risk reduction through education school systems. In all these countries disaster risk reduction is not merely taken as a subject to be taught in class but as a habit and behavior to be practiced not by the individual but by the community as a whole (Pande, 2006).

Literature is silent on the mainstreaming disaster risk reduction into education systems in Zimbabwe. This suggests that there has been very little interest and action towards this area. However, research shows a strong correlation between disaster education and disaster resilience (UNESCO, 2007; ISDR reports, 2008). In this study, disaster risk reduction through schools and educational institutions is regarded as integral in imparting community knowledge and awareness of hazards common in their locale and prepare them for the eventuality. Other scholars support the above notion as they link school education to community appropriate response to disasters (Shaw et al, 2004; Ozaman, 2006; Shiwaku et al., 2007,). Literature also supports the position that viewing disaster risk reduction through the school system lens presents an opportunity for combining local knowledge and indigenous knowledge systems with scientific knowledge (Dekens, 2008) .The combination of these foster innovations in finding sustainable and lasting solutions.

6. Rationale for DDR through school settings in Zimbabwe

Societal institutions are the primary influencers of norms, values and behaviours in people. After family, school is the second most significant primary socializing institution responsible for the development of people's attitude, knowledge behaviors (Saldan, 2013). Hensin (1999) concurs that schools and education systems are agents responsible for socializing people on specific skills and values in a society aiding to ensure social conformity (Appelbaum and Chambiliss, 1997). This indicates the mass targeting nature of schools and education systems. Any platform that presents an opportunity for interaction with children at their youthful stage presents very important opportunities for character change amongst communities. There is convincing justification why disaster risk management must target school systems in order to cultivate a culture of disaster consciousness in the communities. Disaster management is not about individuals but it is about group or communities. The disaster is pronounced when a community is impacted and not individuals. This means focus must be placed on community and not persons. It therefore makes sense targeting large numbers of people and attempt to influence their behaviors than targeting individuals. Thus, the school education is most conducive for mass targeting .The school education system at any point in time harnesses many people as they go through the school system. Schoolchildren make 1.8 billion of the population in the developing world and this is where disaster impact is most devastative (Gordon, 2003). The young age is the ideal point for inculcating new behaviours and knowledge and there is no doubt that involving 1.8 billion school children through the school-education system in disaster risk reduction will increase resilience to disasters in the communities concerned. One can take advantage of school going population's gregarious enthusiasm, energy, and affinity to learn new things and configure them to enhancing disaster risk reduction in their respective communities.

The school system is also ideal because of its ability to ensure consistence on delivering to children and on attendance as children attend school. Thus, disaster risk reduction is easily configured to fit into the schools everyday educational routine system. Apart from that, teaching disaster management to school going populations is investing in the creation of a future disaster reduction conscious society. This is important in that it is a move towards attaining a disaster educated and compliant community. Disaster education reduces community's vulnerability to disasters. Highly educated individuals and societies are reported to have better response and preparedness to disaster suggesting empowering communities, and enhancing human capacity through education systems has positive impact on their resilience (Muttarak and Lutz (2014). The schoolchildren pass the knowledge to the other non school-going members of the community. More so, using school education system helps in improving the communication of disaster information. As children attend school from different sections of the community, they bring in news regarding the hazard situations in those areas. As they go back to their respective communities, they can carry back the communication right into their family units. In this context disaster, risk reduction done not just in schools but also through schools. Thus, catalytic potential for changes through schools in mobilizing communities to acquire DRR knowledge should not be underestimated. Schools are forum developing knowledge. Implicit is the fact that promoting DRR through school education systems harnesses the space to encourage learning and understanding, exchange of ideas and knowledge for survival. Thus, mainstreaming DRR through education system creates a powerbase for mobilizing the community at large, as schools become locus of change.

Reaching students at school going age and training them at that level helps to minimize gender divide in that at that level girls and boys will have not fully assumed observance of patriarchal dominated gender

obligations in the society. Research indicates that most women are left behind in their homes as male attend most of the community trainings and leadership capacity building because patriarchal order detects that leadership is a preserve of males since they are according the position of the heard of the house in the family by culture (Chowdlury et al, 1994; Reeves and Baden, 2000; Makama 2013; GodiyaYusuf et al, 2014). Therefore there is greater accede to education and knowledge capacity building for women at school going age than after. Thus, the school system can be a suitable for achieving gender equity in disaster risk reduction education.

The school itself is a very important disaster infrastructure useful as a rallying point where communities can gather and recollect their selves in the face of disasters. Evacuations, contact points by relief helpers, food distribution points, and storages are in most cases situated at school points. Schools are community social centers as school usually their have a high accessibility which besides usefully during the times if emergencies and disasters. Thus, school infrastructure is key and strategic for effective emergency and disaster risk reduction processes.

The schoolchildren thus become valuable assert in disaster risk reduction. Schoolchildren save as important agents of change whom cam transfer information about DRR to the parents and guardians, who intern circulate it throughout the community. The information is not only transferred, but also stored for future use in the community and passed on to the next community through various community social processes thus adding to community resilience to disasters.

The school system presents several windows for integrating the whole community into the disaster risk reduction work. Community is integrated into the school management system through various development committees, which can participate in mapping how the community and the school may collaborate in mapping community disaster risk reduction strategies. This is in view that the community (parents) and the school as institution possess different capitals, which are needed to complement each other in community disaster risk reduction. Thus, the school education system's propensity for broad information dissemination will initiate a sustainable platform for facilitating a wider agenda for change.

Disaster reduction practice has been marred by quasi-autocratic top-down approaches with NGOs executing already prepared log frames on poor, desperate, and decimated communities minimizing their rights to decide and meaningfully participate. Both the NGOs and the institutional structures are represented by the Civil Protection Unit in Zimbabwe. Much of the disaster risk reduction in Zimbabwe is lead by the NGOs with the CPU taking a facilitating role. The NGOs bring in already prepared packages that exist in one-size fits all models. Thus with very negligible meaningful involvement of the community, the models ignore fundamental differences in needs among the communities. As a result, the notion of deferential vulnerability across different communities is hardly factored in the interventions by both NGOs and government institutions. Institutionalizing disaster risk reduction through schools in Zimbabwe offers a chance to use local knowledge to inform policy, localize, and translate the priorities for action into specific local initiatives that are directly responsive to the community needs. Involving school brings progress to grassroots levels where it is most relevant because local people are the first agents to initiate action during disaster events. School institutions harnesses local participation. When combined with decentralization, it has the potential for becoming drivers of community development and change. In Zimbabwe, disaster risk reduction through school education systems resolves in part the lack of adequate broad-based grassroots participation that has consistently remained a problem in the disaster management practice in Zimbabwe. Greater involvement of the community through the school system may lead to innovation at local level as students; school staff, Parents teachers Associations and community project collaborate in mainstreaming disaster risk reduction in their development work.

The disaster risk reduction through school system will boost women participation in disaster reduction and development processes because of its inclusiveness .Women who are largely absent from development processes have the chance of securing equal participation of being in the forefront of developing processes and claim representation in the decision making as they participate in disaster risk reduction school development committees.

7. Institutionalizing the Hyogo and Sendai frameworks of action in education systems

Schools are well positioned as agents for institutionalising the Hyogo Framework of action within education system, they are also key in enabling the implementation of the Hyogo Framework of Action as well. Although the Sendai Framework for Risk Reduction was built on elements of the Hyogo Framework of Action, its new thrust does not mention education as a social vaccine for disaster risk education. A successful disaster risk reduction intervention is vested in community disaster education levels. Furthermore, section V (subsection 35- to 37) of the Sendai Framework for Disaster risk Reduction 2015-2030 articulates the role of stakeholders in disaster risk reduction but makes no recognition of education. There is no doubt that the Sendai Framework is silent about mainstreaming education in disaster risk reduction and yet education in its variant forms remains the key socializing and behavior change agent across developing communities where disaster risk resilience is low.

8. Bridging the DRR gap in Zimbabwe: Recommendations for action

Zimbabwe has a well-articulated education system. Its literacy rate of 90.7 indicates the countries efficient education systems despite going through economic problems. Rankings published by the Economist positioned Zimbabwe on number one followed by Equatorial Guinea with a literacy rate of 87.00 and South Africa on the third place with a literacy rate of 86.4 (The Ecomomist,2013,SABC ,2014).This somewhat established education infrastructure and system in Zimbabwe opportunities to reducing disaster risk and enhance resilience to disasters. The analysis of the current situation indicates that there is been little done by the Zimbabwean government to implement the 2009 renewed commitment to integrate DRR Hyogo Framework of Action into school curricular by 2015.This position was also reinforced in 2011 at the Third session of the Global Platform (UNISDR, 2009, 211a). It is not a secret that Zimbabwe is far from meeting the deadline. However, despite a slow take off on this matter Zimbabwe still needs to fulfill the 2005 Hyogo Framework For Action of building the resilience of Nations and communities to Disasters through use of knowledge, innovation and education to build a culture of safety at all levels. Zimbabwe's education system and infrastructure presents a window of opportunity to fulfill the demands of the Hyogo and Sendai Frameworks of Action.

9. Ways of Using schools system for achieving Hyogo Framework of Action and Sendai Frameworks for Disaster Risk Reduction (2016-2030)

Curriculum analysis indicate very little DRR in the content of the primary and secondary curricula in Zimbabwe. There is no disaster risk reduction related content in primary curriculum in Zimbabwe .However; there is very negligible disaggregated content of DRR in secondary curriculum. Little information is found in geography and agriculture subjects that lack scope and depth. Besides, the information is not systematically presented and mainstreamed to save the purpose of teaching risk reduction and vulnerability to disasters. Analysis also indicates that out of 17 Universities, only one University has a program directly articulating Disaster management studies. This may indicate lack of prioritization of disasters management studies or the underutilization of schools system disaster management knowledge dissemination in Zimbabwe. There is need to take a serious policy position in mainstreaming DRR in school curricula at all levels (UNISDR, 2005).

Analyses of the teacher education curricula also indicated no DRR content. Inclusion of DRR content in the tertiary education for teachers is key in helping dissemination of disaster risk reduction knowledge as they teach the students. There is need for Government through the ministry of Education to include DRR in the curricular of tertiary teacher education.

Most importantly there is need for revisiting the educational policy and procedures to capture disaster risk reduction. This entails the reconfiguration of already existing educational principles, rules, and guidelines formulated by the government to fulfill long-term educational goal. The goal of education is to train a cadre who is capable of finding solutions to the national challenges and problems. There is no doubt that mainstreaming disaster risk reduction in all forms of education will create a cadre competent enough to meaningfully participate in community disaster risk reduction efforts in the country.

Zimbabwe Tertiary and Higher education institutions, such as universities, teachers' collages, and polytechnics must be mandated by policy to include the concept of disaster risk management in their studies. Institutions have the capability of directing research to proactively dictate harbingers for emergencies and disaster in Zimbabwe. At practical and applied, level Polytechnics and university technical departments must design real models and gadgets, which may be manufactured by industry for use in disaster risk reduction interventions. Their findings can be useful in policy valuation and formulation, disaster management planning and implementation institutions. When published they can be useful to all decision-making institutions in the county.

There is need for political will in making this a reality. The same willingness the leadership display in ensuring education for all is the same effort that is needed in protecting that same population which receives education .Thus, disaster risk reduction through education may be included in all national agendas and so that it receives adequate national funding, debate and stakeholder by in.

More schools must be built in marginalized areas as centers of community development. In Zimbabwe, especially rural communities, schools are the development core of the community. Many activities are centered at the school as the centre of community interaction. Schools are the rallying point for community development. Mainstreaming of disaster risk reduction through school systems meets the growing demand for disaster risk reduction in any marginalized communities in Zimbabwe. It thus becomes both a capacity building and a holistic empowering process for communities, which may otherwise not get such interventions if funds are not donated .Using the school system, is sustainable in that it minimizes operational costs hence continuity.

There is need to create a framework, which reconciles the learning needs of both the classroom leaner, and the non-classroom -leaner (the community) in disaster risk reduction education through school systems. In Zimbabwe, the school system is designed in such a way that parents take part in managing the development of the school. The parents Teachers Association can be tasked to be actively involved in forming and managing

several thematic disaster community committees. Parents are then be used to manage their children who are in and out of schools to execute the tasks under the management of community disaster risk reduction committees .Thus mainstreaming DDR through education may maximize already existing community voluntarism and volunteer networks that are used in schools development committees. Whatever arrangement ,There is need for creating an inclusive framework which facilitates community and pupils to complement each other is tackling disaster risk reduction interventions at community level .Thus the school act as the convergence point for all community capitals which are directed to disaster risk reduction interventions.

Over the past interventions, disaster risk reduction has been a standard package for Zimbabwe. Interventions have been administered in a one size fits all, mostly by Non Governmental Organizations. Most of the interventions in current use are top down and exogenous. In this regard, there is need for Government to reconfigure the disaster risk reduction practice in Zimbabwe by creating a framework, which puts school education system at the core of community disaster risk reduction interventions. This inclusive framework will present the opportunities for communities to claim back the responsibility for determining, leading, and managing their local disaster risk reduction programmes. The framework should give locals the power to invite institutional help and direct relief aid in areas where they feel are necessary and refrain from receiving standardized help which does not add to the future disaster resilience of the community. DRR through school education system helps to harness diversity of environments and contextual nuance and challenges that cannot be captured in standard packages offered by disaster relief organizations.

Attempt to revise the Education Act (2004) to capture the central role of education system in disaster risk management is recommended given the central role education in community disaster risk management. In the same spirit, the Civil Protection Act of 1989 must be repealed to include school-education system on its list of sectoral focus in disaster risk reduction framework. This will help to localize disaster reduction plans while

10. Conclusion

There is great potential for up-scaling disaster risk reduction in through school-education systems. The Zimbabwe education system presents opportunities for mainstreaming Disaster risk reduction in education systems. Schools are societal institutions capable of harnessing community capitals and redirect them to community development.

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