Albert Maipisi, Andries Jordaan, Agoston Restas

AZ ÁRVÍZVESZÉLLYEL SZEMBENI SEBEZHETŐSÉG GYENGE PONTJAI: TANULSÁGAI KORMÁNYOK, FEJLESZTÉSI HIVATALOK ÉS VÉGREHAJTÓK SZÁMÁRA

Absztrakt

Bevezetés: Ugyan a figyelmünket sok esetben csak akkor keltik fel a katasztrófák, amikor komoly veszély fenyeget vagy egy katasztrófa lesújt, a valóságban a sérülékenységhez tudatosan járulunk hozzá. Egyértelmű előnyök vonzzák az embereket a magas kockázatú területekhez vagy nincsen lehetőségük egy teljesen más helyen új életet kezdeni. Módszerek: A fejlődő országokban történt árvizek mélyreható elemzése alátámasztja az előbbi állítást. Az esettanulmány feltárja az összefüggést a kormányzás, fejlődés és katasztrófák között, valamint a dinamikus nemzetközi és hazai társadalmi, politikai és gazdasági környezet hozzájárulását a magasabb kockázati sebezhetőségi szinthez. Az esettanulmány megírásához a szerző mélyrehatóan tanulmányozta a releváns szakirodalmat és a saját maga által tapasztalt gyakorlatokat. Eredmények: A cikk feltárja a katasztrófaveszély csökkentésének jelenlegi módszereinek hiányosságait a közösségek ellenálló-képességének fejlesztésében, mivel a „tojásábra” módszer csak részlegesen érvényesül a szegénység csökkentése és a fenntartható fejlődés érdekében, különösen sok afrikai fejlődő ország esetében.

Kulcsszavak: sebezhetőség, katasztrófaveszély-csökkentés, közösség ellenálló képessége, tojásábra, fenntartható fejlődés

LOCATING FAULT LINES OF FLOOD DISASTER VULNERABILITY AND SUSCEPTIBILITY: LESSONS TO GOVERNMENTS, DEVELOPMENT AGENCIES AND PRACTITIONERS IN DEVELOPING COUNTRIES

Abstract

Introduction: Whereas in many instances minds are aroused to disaster issues only when a major hazard ensues and a disaster manifests, in reality often vulnerability and susceptibility are consciously created but people are attracted to risky areas by visible benefits and where that is not true, by the inability to start life in a completely new place. Methods: An in-depth analysis of flood disasters in developing countries supports the claim. The case exposes a relationship between governance, development and disasters as well as contribution of dynamic international and national socio-politico-economic environments as building blocks to increased risk exposure, vulnerability and susceptibility. This case study was done through extensive review of relevant literature and witnessed practices. Results: The study reveals that current disaster risk reduction (DRR) interventions theoretical practice is inadequate as a tool for building community resilience. In the sense that it is mainly practically applied within the 'egg framework' to achieve poverty reduction and sustainable development. Specifically in many developing countries in Africa.

Key words: vulnerability, susceptibility, disaster risk reduction (DRR), community resilience, egg framework approach, sustainable development

INTRODUCTION

Government silo approaches to disaster risk management (DRM) are among major sources of vulnerability and susceptibility in developing countries (Business for Social Responsibility (BSR), 2001:36 and Ratha, Mohapatra& Plaza, 2008:7). The reactionary quest to reduce drought hazard impacts especially soon after experiencing one often led to dam construction projects in communities. Unfortunately, these projects are usually hurried without rational

Figure 1: Dam construction project. Source: Author

consideration of new risks created in that process and that is later manifested in negative development projects impacts on citizens' lives, livelihoods and assets. As a result of limited DRR integration in development, project financing and government commitment among turbulent social, economic and political environments nationally and internationally. What usually followed next was response, evacuation and an attempt to rebuild livelihoods in the sense of the 'egg framework' that have left more citizens worse-off in terms of resilience.

DISASTERS AND DEVELOPMENT

Disasters have always been viewed to negate development efforts but in some instances they have led to development where agencies incorporate resilience in the development decisions (Enarson, 2012:36). Whereas frequency of droughts can be lower compared to flood incidences per year in most African countries, the impact of droughts cover larger spatial areas over longer durations (UNISDR, 2015_a). As a result droughts gradually reduces citizens' resilience and governments are challenged to formulate, design and implement policies to meet the new societal demands in response. During and soon after these drought disasters, dams are usually built (Raubenheimer, 2011:2) and where they already exist, new efforts to make such infrastructure more functional are renewed towards irrigation development (Kuvirimirwa, 2012). Especially to allow small holder farmers to grow cotton, vegetables, maize and some citrus fruits among others using canals, weirs and pumping stations. But unfortunately in most cases only environmental impact assessments (EIAs) and agro-economic appraisals were carried out to ascertain feasibility of the projects. Thereby exposing people resident at river confluences to new susceptibility and vulnerability to flood risks. Reflecting the silo nature of development approaches in some of these countries.

It is important to note at this stage that as much as governments invested in the construction of these dams, some countries were never fully utilising the infrastructure to mitigate against

intended hazards for different reasons (Maponga, 2012$_a$).In fact such projects mostly increased longer term residents' vulnerability. For instance when construction work starts in those poor communities, children would usually drop out of school to offer manual labour for a wage in the projects. Even though around 60% of local community population were further benefiting in terms of jobs as small scale businesses also flourishes during the same periods too (Masiiwa, 2012).Further, in-spite of the good logic for having these infrastructural developments, most of them are again never completed within planned time due to lack of project financing. But at the same time, new dam construction projects would be initiated in other areas in the same country creating new risks in new communities. To reaffirm the view, in 2012 Zimbabwe a country in Southern Africa had 14 outstanding dam projects with an average of 5years behind schedule (Mutenga, 2012). Thosedam construction delays and initiation of new projects before others are finished presents many negative effects to the on-going projects because little resources will be spread to many projects at the same time (Mujuru, 1998 &Chikovo, 2011). However, factors which contributed most to the infrastructure development delays included lack of foreign currency to pay foreign contractors while national environments usually remains economically volatile and highly inflationary. That was so because internally, developing countries often lacked local highly technical experts, high technology equipment for big infrastructure development projects and large amounts of capital that they would hire foreign companies (Africa for Africa, 2016). The other problem is that the bilateral and multilateral project co-financing mechanisms some developing countries highly relied on are naturally very sensitive to international and national political and economic environment changes. As a result agreements with developing countries can be frozen in response. In addition, starting new projects before completing on-going ones diverts government financing commitments, causes loss of project momentum, increase unnecessary outstanding debts and interests on borrowings over time (Mutenga, 2012; Mirabelli, 1998; Hungwe, 2011; Maponga, 2012$_c$&Gyorgy&Veress, 2016).

Governments in developing countries were initiating public-private partnerships (PPP) when embarking in such big and valuable projects in-order to facilitate early completion, reduce debt and transfer the benefits to vulnerable communities (Hungwe, 1998; Williams, 1993 &Munyira, 1997). However, there were major interest differences which were inhibiting unity between the two sectors and these were mostly rooted in main extreme purposes of their existence (Milicz, 2016:201). As an illustration, private sector in the agricultural sector would propose to build, operate and transfer (BOT)the project within set economic conditions.

Demanding government to remove price controls on their products. For example price controls on sugar if demands were made by sugar cane producers and government would not accept the condition. Sometimes the private sector can further propose to buy the water in advance by providing project capital. With government guarantees that the prices will be hedged until capital invested is fully exploited to the tune of total investment. However, even with that alternative, governments can reject proposal due to its inherent responsibility to protect all water users (Chiwewe, 2006). Therefore governments may have to start huge infrastructure development projects without financial support from the private sector. Other development agencies can also be requested to support in the projects but those are normally deterred by lack of clear completion targets, subsequent functional sustainability of projects and missing mechanisms for government to uphold their project processes principles. As a result, that also reveals questions as to what stage of policy formulation and implementation were interested groups and potential partners involved in developing countries. In addition, analysis of the information above further shows that policy formulation and implementation processes were located in government without extensive participation of interested parties. While community participation is naturally important for effective realisation of the policy objectives that modern DRR observes its necessity in addition to development integration too(Pearce, 2003).

CONSTRUCTION OF DISASTERS AND GOVERNANCE

Following an exposition of the relationship between development and disasters in developing countries, it is basically known in the field of disaster risk management (DRM) that a disaster is the collision of hazard(s) and vulnerability in its different forms. That is true in-spite of differences of disaster definitions due to the field's multi-disciplinary nature. A field that can be equated to democracy that students of politics such as Benard Crick (1962:51) and Dryzek (1997:84&125) noted as adaptable to all sorts of national environments and organisations though in various forms according to prevailing circumstances. In that view, development of a disaster can be theoretically understood through the crunch model (Hansford, 2011:18) diagram given below.

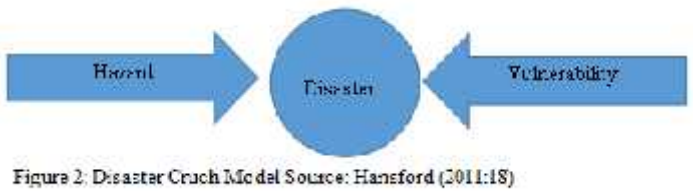

Figure 2: Disaster Crunch Model Source: Hansford (2011:18)

It should be noted that both hazard and vulnerability are usually non-static and in many cases, vulnerability

is a social construct as agreed by both old social marginalisation and modern development theorists (Ayer et al, 1975:1 &UNISDR, 2015$_b$:186). In many developing countries, it can be easily confirmed that it is usually in poor governance where attribution of most disaster vulnerabilities lay. Governments reactively embark on projects and programmes in response to prevailing disasters and then lose momentum as memories of the catastrophic events fade away with time(Kumar, 2008:105).In addition, they were unable to attract partners in projects which they initiate although they may lack capacity to complete the projects within set time periods. Further, they often lacked ability to make some of the completed projects sustainably productive upon completion. In order to strengthen resilience in targeted communities. Lastly, the other challenge was on high dependence of governments on foreign funding. This is too sensitive to international financial markets and multi-national political relations which can change at anytime especially when new governments get in power in partner countries (Maponga, 2006). As a result those were among the major problems which were leading to new hazards and vulnerabilities.

Instead of reversing the disaster crunch model processes, more governance issues are visible as major causes of some of the hazards and vulnerabilities in developing nations. What can happen if large infrastructure such as a dam has to be built on an area that people traditionally lived and related with their environment for many years. For instance where a single dam should sit on 9600 hectares of land already inhabited by people (Maponga, 2012$_b$).Unfortunately where that happens, sometimes instead of relocating susceptible people first, dam construction commences with people still resident on the same area. Exposing children, old people and the sick to indefensible construction dust. As a result, that kept women in such areas busy trying to keep dust outside homes and difficulties in drying washed family clothes outdoor (Nkomo, 2012 &Enarson, 2012:128).In other words that further increased women's duties and responsibilities with another negative effect of reducing their resting time and extending their working hours to accommodate new tasks. Noting that some of them would be sick and on medication or even receiving no medication.

Mechanisms are usually put in place by governments to avoid such scenarios and it can be understood that it is not always easy to relocate affected populations who will have to leave their familial heritage. But sometimes the main challenges are not in local residents themselves. Politicians even in ruling governments can negatively influence people to resist government relocation efforts or they can slow down the process to maintain their constituency votes intact

(World Bank, 2011:47). In some instances communities are also justified in resisting the relocations because governments would need to move them without secure land tenure and appropriate ownership guarantees. That often took time to materialise because sometimes involved national government departments failed to cooperate. To the extent that some people received evacuation entitlement letters while others failed to get them on time. Furthermore, government can also fail to design village models for the relocation project as much as the government wanted them to move. As a result most people would not be moved away from the risky areas. In support of the claim above, even local district councils sharing project jurisdiction would have no clue of development plans relative to the infrastructure under construction. Due to lack of central government coordination and funding for generating master area development plan that in a normal case should guide subsidiary local authorities development plans. A position that really reflects badly on different government levels' relations. Which basically means that central government were in some cases not fully engaging their lower government tiers in coming up with local development policies. A practice that is against public policy making and implementation principles (Quade, 1989:3&4).

In other cases, victims were required to relocate to areas where there were no schools, clinics, bridges, roads, public transport, dip-tanks and safe water. And those factors constantly caused relocation friction between government and citizens. Government inconsistencies on actual land sizes each family had to receive in resettlement areas also contributed to the growth of vulnerability later as governments sometimes also adopted compensation models which left victims worse-off especially in highly inflationary environments. Payment of compensation before people can relocate can be spread over long periods of time without review of initial property assessment values. Where the process would take more than three years the common belief that money received today was more valuable than that received tomorrow should hold water. Therefore such facts reinforced unwillingness of people to relocate in addition to cases where compensation was received too early while relocation was pushed to later dates (Chikovo, 2012; Maluleke, 2012; Maponga, 2012_b &Chipika, 2013). In fact the money that the household could have used to build the house they would lose will not be enough to build the same in the new area and that further made those people more vulnerable.

In addition to the stated, governments can lack resources to move whole susceptible population at once to the extent that compensation would be staggered using new criteria with time. For

instance they can start prioritising relocation of households within 660 metres radius from the river bed. But still resources to target even those few may not be available as the infrastructure construction continues slowly which means growing of the hazard. On the other hand those households resident on area planned for saddle dams, quarry sites and access roads would be forced to vacate to new designated areas. Leaving traditional agricultural land and extended families and with no time to perform cultural rituals in order to pave way for project contractors to work (Chikurira, 1998 &Ncube, 1998 &Maluleke, 2013). An inconsiderate error that DRR principles provide should be addressed by incorporating 'victims' in planning. Upon understanding that cultures and local challenges are not easily understood by outsiders (Kruger *et al*, 2015:9; De Soto, 2001:241).In fact where people leave their ordinarily traditional environments, they would normally need more time to adapt to the new circumstances especially if they were abruptly separated from their social capitals such as extended family, local friends and other important livelihood options like fruit trees.

Those dynamics often causes citizens to endure high risk conditions for a long period before acceding to relocation efforts despite imminence of the hazard. On the other hand the legitimate expectation for compensation and other relocation supports from government often stagnated area household infrastructural development and traditional lifeline seasonal agricultural food production for instance. With negative long term effects to households food security though sometimes government allowed 'victims' to grow crops but due to relocation uncertainties, many rainy seasons can come and pass before people relocate. Others would still not plant even if they are allowed to do so for a season because they will have packed their goods ready for departure as government fails to fund the programme (Mushava, 1998 &Maponga, 2009). In that streak, the above narrative confirms the Paris climate change talks claim. That most vulnerable people were unable to relocate from a risky area on their own as a migration strategy. Because in most instances, it was not an opportunity available to every susceptible individual but only the privileged few (Parkes, 2016:33). That becomes true in cases like this where if people had alternative options to relocate themselves, might not have chosen to be exposed to the aforementioned conditions. These issues under discussion portrayed that hazards can grow and move towards exposed groups and their assets as vulnerability increases too but in both cases, governance can be attributed to the creation of dangerous conditions and creation of susceptibility which thereby weakens resilience.

THE EGG FRAMEWORK AS DRR IN DEVELOPMENT COUNTRIES

Despite conscious manufacture of hazards and growth of vulnerability as a result of development, conditions can deteriorate to disaster situations and destroy lives, assets and livelihoods. Unfortunately flood hazards like others in the rapid onset category can in some cases manifest without sufficient room for scientists to give advance warning with accurate predictions (Turnbull *et al*, 2013:110 &Coppola, 2011:45) especially in developing states with obsolete weather forecasting technologies. Though even where adequate warning can be given, it is another question whether people would be prepared to move away from susceptible areas for whatever reasons. Which include impossibility of those responsible for issuing early warning information to spread it to whole vulnerable communities on time while in some instances there is already reduced community trust of local weather forecasting services due to previous forecasts which did not come out true. In addition, local communities can be unable to fully utilise early warning information for disaster planning and decision making due to the technical nature in which the information can be packaged by the meteorologists (Das, 2012:21 & 28, Turnbull *et* al, 2013:13 and Barston, 2014:236).However because of the inevitability of the disaster crunch, governments and other humanitarian actors would then respond to the disaster and hence their adoption of the 'egg framework approach' (Caverzasio, 2001:21)shown in the diagram below. That will be resorted to in-order to manage the incident and unfortunately that would be classified as the disaster risk reduction (DRR) although that is only a fraction of it.

Figure 3: The egg framework. Source: Caverzasio (2001:21)

Before delving much into that, it should be clarified that the 'egg framework' is a product of three pillars. These are response, remedial action and environment building. With roots in conflict emergency response and limitations traceable to the objectives of the organisation that proposed it: ICRC Central Tracing Agency and Protection Division (Caverzasio, 2001:21 & 22 and Esnard&Sapat, 2014:202). Basically it started with response and ended-up with restoration and reconstruction which is almost half what the modern DRR theoretical cycle entails. Also, whereas the framework was thoroughly discussed during the conferences (Caverzasio, 2001:25) which

most likely culminated to the Sphere Project, it can be argued that this approach is what is operational in many developing countries today. Implying that both national and humanitarian organisations following this approach by design or default were also falling short of modern DRR approaches now broader than mere emergency response and pursuant stages depicted in the 'egg framework'. Due to these limitations(CRED, 2010:339 &Moyo, 2010:44), organisations involved in DRM should transform their culture if sustainable development goals should be realistically achieved in developing countries in line with the new approach.

Just to illustrate the gap, in simple terms DRR is a concept and practice of applying systematic efforts to understand and manage causal factors of disasters. Through efforts inclusive of reducing hazard exposure in-order to lessen vulnerability of people and their property. By wisely managing land and environment in addition to continuous improvement of preparedness for visible and latent adverse disaster triggering conditions (USAID, 2011:13& UN, 2015:21). Than to wait for a disaster to happen and then respond reminiscent to putting a cart before horses when it comes to such hazards consciously created and where people are exposed to known vulnerabilities. In that view, humanitarian agencies can also be less accused of fault in using the egg framework since the Sendai Framework affirms it the primary responsibility of national government to reduce citizens' vulnerability and exposure to hazards and conditions which can lead to disaster losses (UN, 2015:13&36).

Figure 4: Communities displaced by a flood disaster. Source: Author

When disasters happen, vulnerable communities are usually left with limited coping options and they are normally evacuated to temporary shelters that governments and humanitarian agencies will provide. That is the moment Naomi Klein (2007) claims what she called the disaster shock doctrine with roots in the Chicago University School of Economics as advocated by Milton Friedman among others, will be applied many governments. Governments get the rare chance and justification to move people from risky areas. Sometimes that is usually done through security forces coercion. Without addressing underlying causes of vulnerability that would have caused the disaster. For instance the reasons that led to relocation delays. That is done on assumption that most vulnerable people would accept anything offered to them as

much as it would be perceived to have potential to ease current difficult conditions (Prince, 1920:42). However, that was being proved wrong in modern societies but it is significant to note that during that time of the disaster cycle, the 'egg framework' is usually effectively used. Humanitarian and human rights organisations and groups would have the opportunity to put pressure on authorities through disclosure of abuses and other negative behaviours to the public during response, provision of remedial action and environmental building (Caverzasio, 2001:23&24).Further exposing inherent weaknesses of governments and their policy scope insensitivities that usually would have caused evident sub-optimal disaster intervention approaches(Seaman et al, 2015:5 &Dickert, 2015:248).

In addition to those issues that approach have many disadvantages than benefits to the majority of poor people living in developing countries. That is why analysis of smaller disaster events taking place in these countries can help understand what people go through before and after disasters for learning and lessons to governments, development agencies and practitioners. These disaster cases normally affect the 'have-nots' more than the 'haves' with the effect of temporarily and permanently altering citizens' courses of life (Sachiti, 2014_a).Something that nations through the DRR strategy for achieving sustainable development and Millennium Development Goals (MDGs) tries to avoid by advance protection of lifelines. The starting point being acknowledge ments that behind these goals are people, their political rights and civil rights as well as livelihoods (Wisner & Walker, 2005:1; UNISDR, 2015_b:34 & Amartya, 1999:19). Which is a necessary observation because most of these poor nations were also infested with undemocratic national conditions (Cloete& Coning, 2015:72)? Positions that can inversely be interpreted to mean undemocratic governments were mostly creating disaster vulnerability to their citizens.

A single disaster can cause a compound disaster and have more ripple effects to other development programmes with further increases in citizens' vulnerability. That is true for example, where schools can be closed indefinitely especially when their premises are used to shelter disaster victims. While on the same note schools can be open but pupils' attendance can be reduced for different reasons also (Mutore, 2014). Some children can lose their books, uniforms and clothing during disaster incidents as others would also fail to easily access food. Other children will in addition be exposed to mental trauma where life, housing and other important properties are destroyed. Where people relocate to these public places, in some instances family property can be ferried and stashed under other victims' items in these big

single rooms like classrooms (Maponga, 2014$_a$&Siwela, 2000) where accommodation space can be limited. If that happens, it would take longer for school children to locate their belongings necessary for school attendance. On the other hand the longer they would go without attending classes the more those children loses their uniforms, pens and crayons. Barter trading them for tools which benefit them in the prevailing conditions. Like axes, hoes, water tins and catapults (Maponga, 2014$_b$).However in some cases, vulnerable communities can initiate with help from specialist humanitarian organisations such as Save the Children to ensure that children attend classes. Sometimes under pole and dagger structures with the danger to demotivate some pupils from continuing with their education. Those who would drop out of school could often be seen around food distribution points in camps waiting for announcements from responders as others will be chasing cars, loitering around and fetching water from faraway sources where it can be in short supply (Sachiti, 2014$_b$).Reflecting that in some developing countries there are no clear education plans for kids in disasters.

Although donations can always be sourced during disasters as noted above, some families would survive on one meal per day as an adaptation mechanism to the demands situation. Sometimes without shelter (tents) because donations can be limited (Ncube, 2000) and as a result most victims' diet would also be altered. They would no longer get mangoes, groundnuts and roasted maize they could be used to in between meals in their traditional areas (Sachiti, 2014$_c$). Where such problems persist, some victims would migrate to take-up employment elsewhere. Though men were likely to do that compared to their women counterparts who sometimes opted for prostitution (Enarson, 2012:34). In addition to the difficulties of life in tents, shared previous experiences would further make victims fear to move away from camps to newly designated relocation areas. Suspecting that governments would not honour compensation pledges made to the internally displaced once they move to the new areas (Murira, 2012) away from public attention and scrutiny.

Due to government failure to integrate DRR in development policies and programmes people have always lost crops where disasters happened before harvesting time. Cattle, goats, sheep, poultry and donkeys necessary for livelihoods have also usually been threatened by foot and mouth, anthrax and Newcastle diseases among others due to urgent relocation of households, their assets and moveable livelihoods. In other cases the victims were resettled in foot and mouth 'red zones' in national conditions where veterinary service supplies would be inadequate especially when we talk about vaccines diseases such as Newcastle (Honhold*et al*,

2011:55).Where such livelihoods are lost during relocation, vulnerability further increases since the 'victims' would need to adapt quickly to new environmental conditions with new burdens for households to ensure uninterrupted food supplies for their living. Aware that most developing countries depended on donors during disaster situations, it is usually difficult for governments to provide relevantly for different special groups' dietary requirements. That where kids are concerned, it can lead to new challenges such as Kwashiorkor but due to limited transparency in some of these countries, people can suffer more without it being known to the world. Proving the general claim that it is after an emergency situation that the tree of liberty begins to flourish again true (Sorokin, 1942:143). Therefore, failure to integrate DRR in development and in fact electing to use the 'egg framework' only as intervening agencies, costs more lives, livelihoods and assets of vulnerable people in most developing countries. That is why governments, humanitarian agencies and practitioners should be willing to move beyond the 'egg framework' in practice and realistically bend towards adopting DRR as 'the tool' if significant sustainable development results should be realised earlier.

In support of the above assertion, when cattle were moved further from flood areas to new areas, there would be outbreaks of lumpy skin disease that would kill hundreds of them. These livestock can also be endangered to being prey to lions and other wild animals. Further, people who moved to jackals infested areas with their dogs had more chances of getting rabies. Therefore, people especially children, dogs and cats should be vaccinated against the same. Livestock further suffers from movement stress and will be required to follow strict dipping programmes to avoid tick borne diseases although the new areas may have no dip-tanks. Some of these animals would be suffer foot rot problems due to muddy kraals and grazing areas they would have lived and passed through for example after the flood. Raising need for antibiotics like oxytetracycline and penicillin which may be inaccessible at the time. In the same streak, soil erosion exposes livestock to soil borne diseases like black leg and quarter evil while wet weather encourages proliferation of biting flies (Maponga, 2014$_b$&Maponga, 2014$_c$&Chikwati, 2014). All these challenges would require funding in-order for them to be averted but due to the nature of emergencies the challenges are often unforeseen and unprepared for in advance. Therefore, interventions even within the 'egg framework' approaches should be considerate of these issues if resilience of communities in disasters especially in developing countries should be maintained and achieved. In fact, organisations involved in disasters despite their approaches, should invest in interaction with communities before disasters otherwise during emergencies, their interventions can be found inadequate to the requirements of communities.

They should also make effort to understand the society at large by gathering national statistical data which should be helpful for response if they desire to be effective in their operations. DRR has a lot of beneficial principles which can vastly help organisations involved in disaster management.

CONCLUSION

In conclusion, it is clear that community vulnerabilities and susceptibilities are mainly a result of approaches by government and other development related interventions. Whereas DRR is the modern buzz word in developing countries mainly due to climate change, more needs to be done if sustainable development goals should be realised in these poor countries.In some instances governments consciously create new hazards in pursuit of development objectives but in the end increasing people's vulnerability due to lack of comprehensive assessments of development plans. In other instances humanitarian organisations and private sector stood rigid in their business approaches and in the end, they would become active when disaster events ensue. Hence they would have one option of using the 'egg framework' as their wholesome DRR. Where such institutions are not prepared to transform for whatever reason, it means new developments in theory of DRM may have limited impact on their practices. Therefore, adoption of proactive, multi-sector integrating and pragmatic approaches by development institutions can help reduce noticeable hazards which were causing suffering and misery to vulnerable citizens. That would also help reduce vulnerability than waiting for a disaster situation to fully manifest in-order for intervention agencies to start to profitably engage with government. Otherwise the 'egg framework' remains the DRR approach in practice though the golden question is whether that is the DRR that we wanted as development practitioners.

REFERENCES

Africa for Africa (2016). *Construction of TokweMukosi dam in Zimbabwe near completion*. Group Africa Publishing Ltd. Nairobi.*(http://constructionreviewonline.com/2016/11/construction-of-tokwe-mukosi-dam-in-zimbabwe-near-completion/)* viewed on 23 November 2016 at 2139 hrs.

Amartya, S. (1999). *Development as freedom.* Oxford University Press. Oxford.

Ayar, H., Carpenter, E., Deeds, D. & Martin, E. W. (1975). *The beginnings of social marginalisation: An Arizona example.* Oregon State University Regional Centre for Applied Social Science Research. WRDC Discussion paper No. 6.

Barston, R. P. (2014). *Modern Diplomacy (4th Ed.).* Routledge Taylor & Francis Group. New York.

Business for Social Responsibility (2001). *Guide to engaging with NGOs.* Business for Social Responsibility Education Fund (BSREF). New York. Caverzasio, S. G. (2001). *Strengthening protection in war: A search for professional standards.* International Committee of the Red Cross. Geneva.

Chikovo, F. (2011). *Work on Tokwe-Mukorsi Dam yet to commence.The Herald of 11 March 2011.* Zimpapers Ltd. Harare.

Chikovo, F. (2012). *US$4 million required for relocation of Tokwe-Murkosi displacements.The Herald of 9 August 2012.*Zimpapers Ltd. Harare.

Chikurira, A. (1998).*Families cry foul over delays in resettlement. The Herald of 9 June 1998.* ZimpapersLtd. Harare.

Chikwati, E. (2014) *Relocated livestock under threat. The Herald of 14 March 2014.* Zimpapers Ltd. Harare.

Cloete, F. & De Coning, C. [Eds.]. (2015). *Improving public policy theory practice and results (3rd Edition).* Van Schaik Publishers. Pretoria.

Chipika, G. (2013). *US$300 000 sought. The Herald of 27 September 2013.*Zimpapers Ltd. Harare.

Chiwewe, W. (2006).*Firm offers funding for Tokwe-Mukorsi Dam. The Herald of 11 December 2006.*ZimpapersPvt. Ltd. Harare.

Coppola, D. P. (2011). *Introduction to international disaster management (2nd Edition).* Butterworth – Heinemann. Amsterdam.

CRED. (2010). *Safer homes, stronger communities: A handbook for reconstructing after natural disasters.* World Bank. Washington.

Crick, B. (1962). *In defence of politics.* The University of Chicago Press. London.

Das, A. (2012). *Evaluating Early Warning Systems in the Sundarbans of West Bengal*. DRCSC. Kolkata.

De Soto, H. (2001). *The mystery of capital: why capitalism triumphs in the west and falls everywhere else.* Transworld Publishers. London.

Dickert, S., Vastfjall, D., Kleber, J. &Slovic, P. (2005). *Scope insensitivity: The limits of intuitive valuation of human lives in public policy.* Journal of Applied Research in Memory and Cognition. Vol. 4 (3) pages 248-255.

Dryzek, J. S. (1997). *The politics of the earth: Environmental discourses.* Oxford University Press. New York.

Enarson, E. (2012). *Women confronting natural disaster: From vulnerability to resilience.* Lynne Rienner Publishers, Inc. London.

Esnard, A. &Sapat, A. (2014). *Displaced by disasters: Recovery and resilience in a globalizing world.* Routledge Taylor & Francis Group. New York.

Gyorgy, L. &Veress, J. (2016). *The Hungarian economic policy model after 2010.* Public Finance Quarterly 2016/3.

Hansford, B. (2011). *Reducing risk of disaster in our communities (2nd Edition).*Tearfund. Teddington.

Honhold, N., Douglas, I., Geering, D., Shimshoni, A. &Lubroth, J. [Eds.]. (2011). *Good emergency management practices: The Essentials.* FAO Animal Production and Health Manual Number 11. Rome.

Hungwe, J. (1998). *$400m dam construction begins in Masvingo soon.* The Herald of 13 January 1998. ZimpapersPvt. Ltd. Harare.

Hungwe, J. (2011). *President hailed for Tokwe-Murkosi payment.* Herald of 5 May 2011. ZimpapersPvt. Ltd. Harare.

Klein, N. (2007). *The shock doctrine: The rise of disaster capitalism.* Henry Holt and Company. New York.

Kumar, A. (2008). *Global disaster management.* SBS Publishers and Distributers Pvt Ltd. New Delhi.

Kuvirimirwa, F. (2012). *Tokwe-Mukorsi set to generate 6 megawatts. The Herald, 6 August 2012.*ZimpapersLtd. Harare.

Kruger, F., Bankoff, G., Cannon, T., Orlowski, B., Lisa, E. &Schipper, F. (2015). *Cultures and disasters: Understanding cultural framings in disaster risk reduction.* Routledge Taylor and Francis. London.

Maluleke, T. (2012). *Government demarcating plots at Nuanetsi Ranch. The Herald of 28 August 2012.*ZimpapersLtd. Harare.

Maluleke, T. (2013). *Masvingo sets up land task force. The Herald of 26 August 2011.* ZimpapersLtd. Harare.

Maponga, G. (2006). *Engage private sector in Tokwe-Mukosi project. The Herald of 5 May 2006.*ZimpapersLtd. Harare.

Maponga, G. (2009). *Lack of funds hampers relocation of families. The Herald of 28 July 2009.* ZimpapersLtd. Harare.

Maponga, G. (2012$_a$). *Continue investing in dam construction, irrigation. The Herald of 30 July 2012.*Zimpapers Ltd. Harare.

Maponga, G. (2012$_b$). *Land to relocate Tokwe-Murkosi families secured. The Herald of 23 July 2012.* ZimpapersLtd. Harare.

Maponga, G. (2012$_c$) *Tokwe-Murkosi Dam nears completion*. The Herald of 24 July 2012. ZimpapersPvt. Ltd. Harare.

Maponga, G. (2014$_a$). *'The gods must be angry'. The Herald of 15 February 2014.*Zimpapers Ltd. Harare.

Maponga, G. (2014$_b$). *Government vaccinates 18000 cattle in Tokwe-Mukosi. The Herald of 5 March 2014.*Zimpapers Ltd. Harare.

Maponga, G. (2014$_c$). *Till Tokwe-Mukosi floods do us part… The Herald of 24 February 2014.* Zimpapers Ltd. Harare.

Masiiwa, M. (2012). *Tokwe-Mukorsi: Chivi's lifeline. The Sunday Mail of 23-29 December 2012.* ZimpapersPvt. Ltd. Harare.

Mirabelli, J. (1998) *$600 joint agreement signed for construction of Tokwe-Mukorsi dam.* The Herald of 26 February 1998. ZimpapersPvt.Ltd. Harare. Milicz, A. *Market role of the state and possibilities to control this role at public enterprises*. Public Finance Quarterly 2016/2.

Moyo, D. (2010). *Dead Aid: why aid makes things worse and how there is another way for Africa.* Penguin books. Johannesburg.

Mujuru, J. (1998). *$600M joint agreement signed for construction of Tokwe-Mukorsi dam. The Herald of 26 February 1998.*Zimpapers Ltd. Harare.

Munyira, F. (1997). *State goes it alone on project.* The Herald of 22 June 1997. ZimpapersLtd. Harare.

Murira, T. (2012).*A village engulfed in dust. The Herald of 15 July 2012.*Zimpapers Ltd. Harare.

Mutenga, T. (2012). *'ZINWA should prioritise dam projects'. The Financial Gazette of 28 June 2012.*Zimpapers Ltd. Harare.

Mutore, R. (2014). *Sulu, corporates join hands. H-Metro of 19 February 2014.*Zimpapers Ltd. Harare.

Mushava, F. (1998). *President seeks funding for Tokwe-Mukorsi dam. The Herald of 3 December 1998.* Zimpapers Ltd. Harare.

Ncube, I. (1998). *Failure to resettle families disrupts work at Tokwe-Mukorsi. The Herald of 27 November 1998.*Zimpapers Ltd. Harare.

Ncube, J. (2000). *6000 Cyclone Eline victims still homeless. The Chronicle of 27 November 2000.*Zimpapers Ltd. Bulawayo.

Nkomo, S. (2012). *A village engulfed in dust. The Sunday Mail of 15 July 2012.*ZimpapersLtd. Harare.

Parkes, R. (2016). *People on the move: the new global (dis)order - Challiot Paper No. 138.* European Union Institute for Security Studies (EUISS). Paris.

Pearce, L. (2003). *Disaster management and community planning and public participation: how to achieve sustainable hazard mitigation.* Natural Hazards, Volume 28, Issue 2, pp 211-228.

Prince, S. H. (1920). *Catastrophe and social change: based upon a sociological study of the Halifax disaster.* Columbia University. New York.

Quade, E. S. (1989). *Analysis for public decisions (3rd Edition).* Elsevier Science Publishing Co., Inc. New York.

Ratha, D., Mohapatra, S. & Plaza, S. (2008). *Beyond Aid: New sources and innovative mechanisms for financing development in Sub-Saharan Africa*. The World Bank. Washington DC.

Raubenheimer, S. (2011). *Facing climate change: Building South Africa's strategy*. IDASA. Cape Town.

Sachiti, R. (2014a) *TokweMukosi: Tale of desolation, hope. The Herald of 26 February 2014.*Zimpapers Ltd. Harare.

Sachiti, R. (2014b). *Back to school in Chingwizi: But all not rosy for TokweMukosi flood victims. The Herald of 20 March 2014*. Zimpapers Ltd. Harare.

Sachiti, R. (2014c). *Government relocates 1500 families. The Sunday Mail of 25 February 2014.*Zimpapers Ltd. Harare.

Seaman, J., Clarke, P., Boudreau, T. & Holt, J. (2015). *The household economy approach: A resource manual for practitioners.* Save the Children UK. London.

Siwela, A. (2000). *Council in fresh bid to help cyclone victims. The Chronicle of 10 March 2000.* Zimpapers Ltd. Bulawayo.

Sorokin, P. A. (1942). *Man and society in calamity: The effects of war, revolution, famine, pestilence upon human mind, behaviour, social organisation and cultural life.* E. P. Dutton and Company Inc. New York.

Turnbull, M., Sterrett, C. L. &Hilleboe, A. (2013). *Toward resilience: A guide to disaster risk reduction and climate change adaptation.* Practical Action Publishing Ltd. Warwickshire.

UN. (2015). *Sendai Framework for disaster risk reduction 2015-2030*. UNISDR. Geneva.

UNISDR. (2015_a). *India basic country statistics and indicators 2014*. UNISDR. Geneva. (*http://www.preventionweb.net/countries/ind/data/)* viewed on 5 November 2015 at 2143hrs.

UNISDR. (2015_b). *Making development sustainable: The future of disaster risk management - Global Assessment Report on Disaster Reduction*. United Nations Office for Disaster Risk Reduction (UNISDR). Geneva.

USAID. (2011) *Disaster Risk Reduction – Southern Africa Fact Sheet No. 1. Fiscal Year (FY) 2011 of September 30, 2011.* US Office of Foreign Disaster Assistance (OFDA).Washington.

Williams, H. (1993). *Lack of funds threatens to stop dam construction.* The Herald of 3 October 1993. Zimpapers Ltd. Harare.

Wisner, B. & Walker, P. (2005*). Beyond Kobe: A proactive look at the World Conference on Disaster Reduction 18 – 22 January 2005, Kobe. Japan - A report for the Swiss Department of Humanitarian Aid.* Feinstein International Famine Centre. Boston.

World Bank. (2011). *Earthquake reconstruction: GFDRR Knowledge notes*. The World Bank. Washington.

Albert Maipisi

PhD student, Disaster Management Training and Education Centre for Africa (DiMTEC), Faculty of Natural and Agricultural Sciences; University of the Free State, Bloemfontein, South Africa

albamaipisi@gmail.com

ORCID: 0000-0003-3827-2434

Andries Jordaan

Director, Disaster Management Training and Education Centre for Africa (DiMTEC), Faculty of Natural and Agricultural Sciences, University of the Free State; Bloemfontein, South Africa, jordaana@ufs.ac.za

ORCID: 0000-0002-5169-7851

Agoston Restas

Head of Department, Department of Fire Protection and Rescue Control, Institute of Disaster Management, National University of Public Service, Budapest, Hungary, Restas.Agoston@uni-nke.hu

ORCID: 0000-0003-4886-0117

Lektorálta:

Dr. Pántya Péter, Nemzeti Közszolgálati Egyetem, Katasztrófavédelmi Intézet

Kuk Enikő Eszter, Nemzeti Közszolgálati Egyetem, Katasztrófavédelmi Intézet