Local governance in disaster risk reduction in Cameroon

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At the 2005 World Conference on Disaster Risk Reduction held in Hyogo, Japan, 168 countries including Cameroon adopted the Hyogo Framework for Action, committing to take action to reduce human and socio-economic disaster losses. Geotechnology, Environmental Assessment and Disaster Risk Reduction was commissioned by the Global Network of Civil Society Organisations for Disaster Risk Reduction as the coordinating organisation in Cameroon to evaluate progress in implementation of the framework from the civil society perspective, particularly the role of local governance in disaster risk reduction (DRR). Seven regions of the country were identified for evaluation, where people have suffered losses from disasters during the last three decades. Three approaches were used: administration of questionnaires; consultations with local communities; and four case studies. It was found that there was significant scope for improvement on individual local governance indicators, and that effective progress depends on:

1. level of achievement in the decentralisation process currently under way.
2. adoption of a participatory approach to DRR.
3. clear distribution of roles in the DRR process.
4. adequate allocation of necessary financial and human resources.
5. enhancement of capacity of local communities to prepare for and respond to all types of disasters.

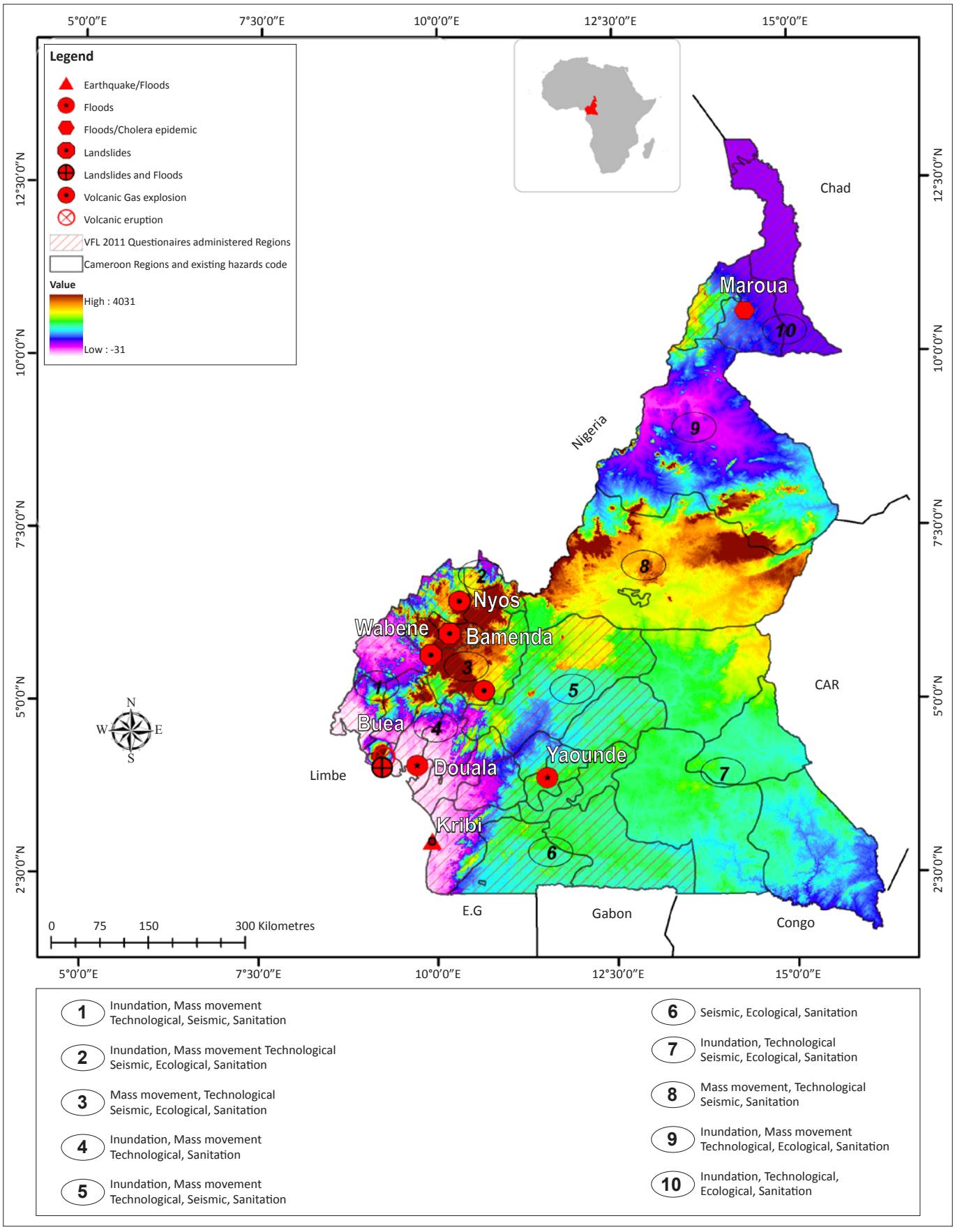
Creation of an independent body to carry out fundamental research, forecast new and emerging hazards and manage all disasters in the country will contribute greatly to moving things forward.

Introduction

Cameroon is one of the countries in sub-Saharan Africa that is vulnerable to disaster impact due to physical, socio-economic, and environmental factors that negatively affect the capacity of its people to secure and protect their livelihoods. Major predisposing factors include a fragile and degrading environment, high levels of poverty, disease prevalence, poor health infrastructure, weak involvement of local government authorities in disaster risk reduction (DRR), and limited implementation of available DRR policies (World Bank & United Nations International Strategy for Disaster Reduction 2007). Such a situation is not unique, the reason for formation by the United Nations of the Hyogo Framework for Action (HFA) to address losses from disasters of lives, livelihoods and infrastructure in order to achieve the Millennium Development Goals (MDGs).

The Global Network for Disaster Risk (GNDR) set up the 'Views from the Frontline' (VFL) project to monitor implementation of the HFA in different countries from the perspective of civil society. Studies carried out by VFL suggest that whilst some progress has happened at national level, there are increasingly wider gaps between national and local level (GNDR 2011a). The problem is pertinent because it is at local level that individuals in at-risk zones are found, often far away from where decisions regarding disaster and risk management issues are taken. VFL therefore started measuring progress in implementation of the HFA at grassroots level (local governments). The first phase of the project took place in 2009 and was carried out in over 40 countries and results were presented at a Global Platform meeting in Geneva in 2009. The second phase took place in 2011 with the participation of 69 countries.

Previous studies on DRR in Cameroon by a local civil society organisation (Geotechnology, Environmental Assessment and Disaster Risk Reduction – GEADIRR) suggested (amongst other issues) a lack of local community and civil society involvement in knowledge creation and decision making in DRR matters in the country (GEADIRR 2009). The VFL 2011 project study offered an opportunity to investigate this further, so GEADIRR indicated interest in participating in the VFL project and was commissioned by the Global Network of Civil Society Organisations for Disaster



Source: Geotechnology, Environmental Assessment and Disaster Risk Reduction (GEADIRR), 2011, 'VFL Country Report for Cameroon', unpublished report, GEADIRR, Cameroon

FIGURE 1: Map of Cameroon disaster.

Risk Reduction as the National Coordinating Organisation for Cameroon. GEADIRR worked together with six other civil society organisations (participating organisations, or POs).

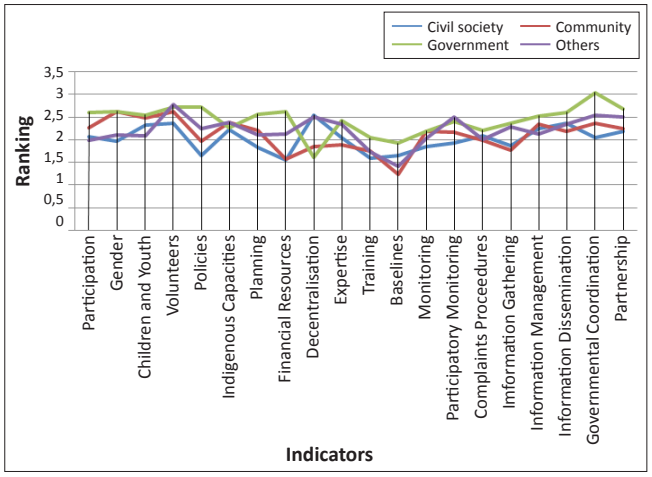
This article discusses results of the 2011 VFL survey in Cameroon. It gives an overview of the status of DRR in Cameroon, a historical overview of the disaster risk profile of the country, and describes the main causes and patterns of vulnerability affecting Cameroon's communities. It also focuses on the major findings, based on the local governance survey indicators. The article then outlines strengths and weaknesses of DRR activities in the country, and makes a number of recommendations on the way forward.

Research methodology

A risk profile for Cameroon was established (Figure 1) from previous work, a literature review and interviews. This identified seven regions where people have suffered losses from disasters during the last three decades. Questionnaires based on 20 local governance indicators (Figure 2) were then administered in the seven regions by GEADIRR and six POs. The questionnaires (GNDR 2011b) were designed to explore the frontline views of ordinary people and their perception of the level of threat of disaster in their areas, and to explore local governance issues associated with disaster preparedness. Informants had six choices for each question, with scores ranging from 1 to 5 as follows:

1 = No, not at all.
2 = To a very limited extent.
3 = Some activity but significant scope for improvement.
4 = Yes, but with some limitations in capacities and resources.
5 = Yes, with satisfactory, sustainable and effective measures in place; there was also an option for X = don't know. (GNDR 2011b)

The survey used a face-to-face approach and informants were chosen from amongst decision makers at local and community level. Target groups were local administrative officers (divisional, sub-divisional and district level government representatives – 32.5%), mayors and community representatives (29.6%), traditional rulers (chiefs and quarter heads), elites, civil society organisations or also known as, non-governmental organisations (NGOs) (19.4%), and other individuals (clergy, doctors or nurses, head teachers, etc. [18.4%]). They were interviewed in their homes and/or work places. Three hundred questionnaires were administered and 206 (70%) informants responded.



Source: Geotechnology, Environmental Assessment and Disaster Risk Reduction (GEADIRR), 2011, 'VFL Country Report for Cameroon', unpublished report, GEADIRR, Cameroon

FIGURE 2: Ranking of Cameroon local governance indicators on DRR policies.

Three community consultation meetings (in Yaoundé, Maroua, and Limbe) and one national meeting (in Limbe) were organised to discuss the results of the survey with the different stakeholders. Four case studies were also developed in areas affected by the most common disaster types:

1. Buea for volcanic eruptions,
2. The Nyos area for gas emissions from lakes and;
3. Yaoundé and Limbe for floods and landslides (GEADIRR 2011).

This article focuses on the results of the local governance survey only; those that came out of the community consultations and case studies will be presented elsewhere.

Overview of the status of DRR in Cameroon

The disaster management system in Cameroon is governed by a number of laws and decrees: *Law No*. 86–16 of 06 December 1986 reorganises civil protection; *Law No*. 98–15 of 14 July 1998 relates to infrastructural risks, classifying a number of establishments as dangerous, unhealthy or obnoxious; *Decree No*. 98–31 of 09 March 1998 determines the organisation of emergency and relief plans; Decree No. 96/054 of 12 March 1996 determines the composition and duties of the National Council of Civil Protection; and *Decree No*. 2004/99 of 26 April 2004 reorganises the Ministry of Territorial Administration and Decentralisation (MINATD) (Ayanji 2004).

The legal and institutional framework for DRR in Cameroon foresees a primary role for the State, within a 'top-down' hierarchical structure. MINATD is the lead ministry and coordinates (via the Department of Civil Protection) DRR actions through a network of over 379 decentralised structures (local government, i.e. divisional, sub-divisional and district heads). Local government structures do not have separate disaster departments. Vertical coordination is reflected in that MINATD reports to the Prime Ministry, which in turn reports to the Presidency.

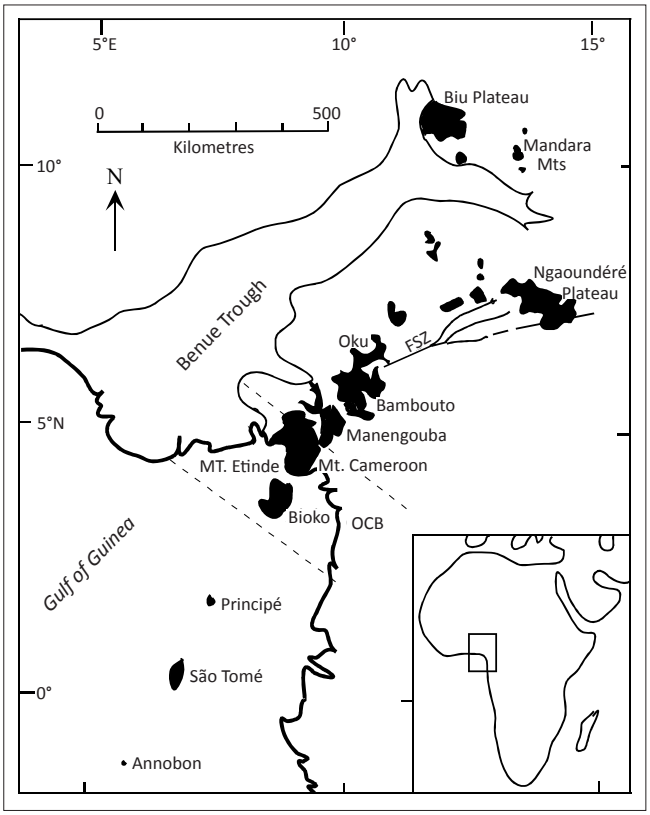
MINATD deals with most classic components of disaster risk management, including risk identification, mitigation, preparedness, emergency response, rehabilitation and reconstruction. For instance, gathering of information on disaster occurrences over the national territory is done by MINATD. Horizontal coordination is not very clearly defined. A number of line ministries (Defence, Public Health, Town Planning and Housing, Transport, Social Affairs, Scientific Research) are also involved in disaster mitigation activities. Whilst local level administrative actors like traditional leaders have *de facto* roles in emergency response (Atanga *et al*. 2010), there is no explicit reference to these actors in the available legislation.

Civil society actors are yet to be coherently integrated into the institutional and policy constellations. Whilst the system is organised along the classic three axes of prevention, response and post-disaster management, more emphasis is put on disaster response than on prevention (which should include forecast) and mitigation. Moreover, a recently created National Platform on DRR is still based in MINATD, and is yet to be fully implemented at the frontlines.

Overview of DRR profile in Cameroon

Cameroon is vulnerable to different types of hazards and faces both minor and major disasters resulting from natural and anthropogenic causes (GEADIRR 2009). Over 50% of the disasters in the country are linked to the existence of a geological feature called the Cameroon Volcanic Line (CVL) (Figure 3).

The CVL is an intraplate volcanic chain made up of the 12 volcanic centres. Ecological disasters like deforestation are on the rise and have the potential to affect more people in the future. Some ecological zones in Cameroon are more vulnerable (e.g. the Northern Region with harsh climatic conditions), and the increasing impact of climate change has led to an increase in the occurrence of climate-related disasters (Dkamela 2010). Common disasters include mass movements (landslides, rockslides and mudflows), earthquakes, volcanic eruptions, gas emissions from lakes, drought, violent winds (gales, storms), desertification, floods, epidemics (cholera and meningitis) and accidents.



Source: Aka, F.T., 2000, 'Noble gas systematics and K-Ar chronology: Implications on the geotectonic evolution of the Cameroon Volcanic Line, West Africa, PhD thesis, Graduate School of Natural Science and Technology, University of Okayama, Japan.

FIGURE 3: Map showing the volcanic centres (in black) of the Cameroon Volcanic Line (CVL).

Technological disasters (automobile and industrial accidents) are more frequent and have claimed more lives than other types (GEADIRR 2009). Gas explosions occurred in Cameroon in 1984 and 1986 in Lakes Monoun and Nyos respectively; the Lake Monoun explosion killed 34 people whilst the Lake Nyos gas explosion killed 1750 people, over 3000 cattle, and displaced 3000 people (Aka *et al*. 2008; Le Guern & Sigvaldason 1989). Volcanic eruptions are limited to the activity of Mount Cameroon, currently the only active volcano on the CVL, with the last eruptions in 1999 and 2000 (Suh *et al*. 2003; Favalli *et al*. 2011). Volcanic hazards like ash fall, mudflows, volcanic landslides, lava flows and volcanic gases are common (Thierry *et al*. 2008).

About 36 earthquakes have occurred in and around Cameroon within the last 160 years (Figure 4a; Ntepe *et al*. 2004). Landslides have killed an average of at least four people every year over the last 21 years (Figure 4b; Che *et al*. 2011). Reported flooding incidents are on the rise, especially in major cities like Yaoundé (Central Region), Douala and Limbe (Littoral) and Bamenda (Western Highlands) (Zogning, Ngouanet & Tiafack 2007). Epidemics like HIV, cholera, diarrhoea and malaria have killed many. Between 2009 and 2011 flooding from violent storms spread cholera in Cameroon, leaving hundreds of people dead and thousands infected (Sprigge 2010).

Main causes and patterns of vulnerability affecting communities

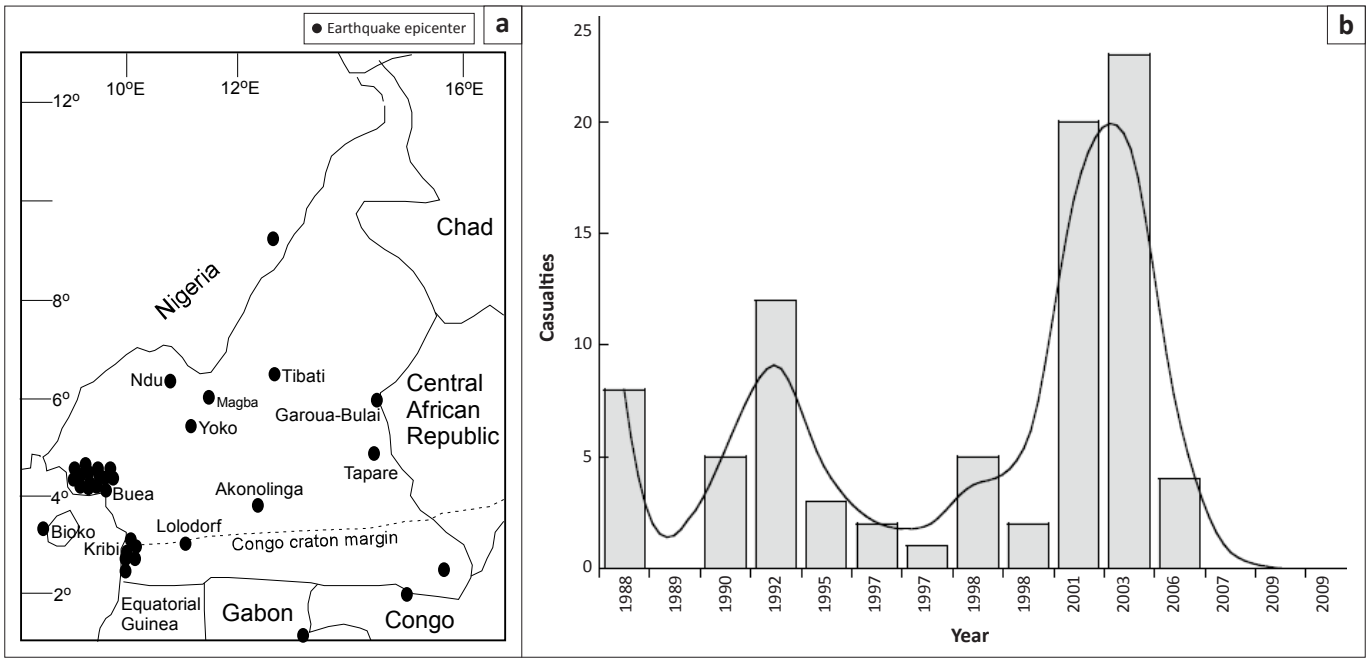
The patterns of vulnerability affecting communities in Cameroon are linked to hazard occurrences, but perhaps more importantly vulnerability is linked to the institutional and socio-economic context for hazard prevention, mitigation and response. A number of examples illustrate the situation.

Volcanic eruptions have destroyed private property and public infrastructure (bridges, communication lines, roads, rail lines and agricultural farmland). The 1999 eruption produced lava that cut 80 m of a major highway linking two cities (Limbe and Idenaou) on the southwest flank of Mt. Cameroon. Lava and volcanic ash fall contaminated the water supply and caused breathing or respiratory problems (Atanga *et al*. 2010; Njome *et al*. 2010).

According to Tabod *et al*. (1992), earthquakes in Cameroon are caused by two main factors:

1. the existence of the Foumban Shear Zone or Ngaoundéré lineament in the north and the Congo craton and Sanaga fault systems in the south.
2. the existence of Mount Cameroon. (n.p.)

Periodic movements along the faults result in earthquakes in the central (Tibati, Magba, Garoua-Bulai) and southern (Kribi, Lolodorf Akonolinga) areas (see Figure 4a). In 2002 a magnitude 3.6 earthquake struck Kribi, a southern Cameroon city. It caused general panic but no casualties. Analyses of seismic risks in the area suggest the need for a seismic building code, with structures designed to withstand earthquakes with a Modified Mercalli (MM) intensity of at least VII (Ntepe *et al*. 2004). More than 35% of the earthquakes



Source: Tabod C.T., Fairhead J.D., Staurt G. W., Ateba B. & Ntepe N., 1992, 'Seismicity of the Cameroon volcanic Line 1982–1990', *Tectonophysics* 212, 303–320

FIGURE 4: (a) Felt earthquakes in Cameroon over the past 160 years (from 1852 until today). Note the concentration of earthquakes around Buea and Kribi. (b) Landslide casualties in Cameroon for the past 20 years (1988–2008).

occurred around Mount Cameroon, most preceding and/or accompanying eruptions, with some strong enough to destroy houses.

Studies revealed that the gas explosions of Lakes Monoun and Nyos were caused by seepage into and continuous accumulation of natural carbon dioxide (CO_2) at the bottom of the lakes (Le Guern & Sigvaldason, 1989). In the case of Lake Nyos it was found that the lake still contained about 350 million cubic metres of CO_2 (Kusakabe *et al*. 2008). In addition, its northern border has a natural dam made of unconsolidated pyroclastic deposits. The age and likelihood of the dam failing from back erosion (which could result in a massive flood) are still a topic of contention (Aka *et al*. 2008; Lockwood *et al*. 1988). Human habitation in the area is therefore still risky, so action is being taken to remove the gas from the lakes and reinforce the dam. Lake Monoun is now completely degassed, whilst Lake Nyos is 30% degassed and will become completely degassed in 1–2 years. However, much still needs to be done in effectively resettling the displaced population as well as providing and improving on basic services for the populations around the lakes.

Floods have resulted in several casualties, huge loss of property and a great deal of suffering, especially for urban slum dwellers. Flooding has been ascribed to a combination of climate change factors leading to fluctuations in rainfall patterns, anthropogenic factors like rapid and unplanned urbanisation resulting in increased construction without integration of DRR policies, and misguided house or industrial waste disposal by dumping in water channels. The natural hazard event of flooding can be prevented from turning into a disaster by implementation and enforcement of standards in municipal planning, in waste management and/or proper sanitation.

In the case of landslides, natural triggering mechanisms such as heavy rainfall, earthquake or volcanic eruption cannot be prevented, but anthropogenic factors (e.g. urbanisation, deforestation, domestic sewage seeps) can be addressed by a well-structured disaster risk response system. Construction on slopes that exceed a critical perching angle can result in landslides that cause loss of life and property. Landslides could be prevented by drainage control, grading and slope supports. Delimitation of landslide-prone (hazardous) areas would need detailed geological studies (e.g. in Limbe and Bamenda). The situation could further be improved by revisiting local building codes and the criteria for issuing building permits.

With regard to epidemics, Sprigge (2010) attributes the cause of the 2009 cholera epidemic to unhygienic conditions. Less than 30% of the Cameroon's population has access to potable water and fewer than 15% access to good toilets.

Deaths and injuries from automobile accidents in Cameroon can be ascribed to the very poor state of the roads, widespread use of vehicles that are not roadworthy and irresponsible behaviour by drivers and other road users – but also to poorly resourced, underperforming emergency medical and rescue services.

Survey results

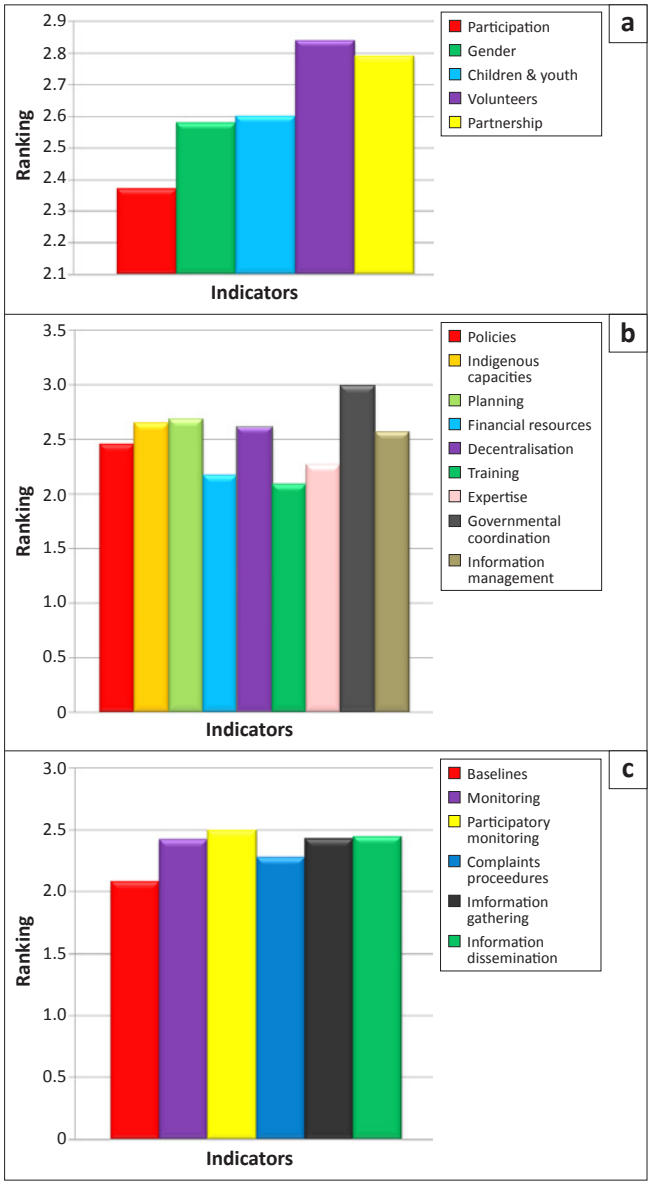
Results of the face-to-face local governance survey are grouped under three main headings relating to good governance indicators: indicators of inclusion and participation (partnership, volunteers, children and youth, gender); indicators of local capacity and capability (policies, indegenous capacities, planning, financial resources, decentralisation, training, expertise, govenmental coordination, information

management); and indicators of accountability and transparency (baselines, monitoring, participatory monitoring, complaints procedure, information gathering, information dissemination). An overall mean score of 2.5 on a scale of 5 for all 20 local governance indicators is recorded (Figure 5), which shows some level of activity by government to address DRR issues in the country.

Inclusion and participation

Effective DRR requires inclusion of the local population in decision making (Atanga *et al*. 2010). A participatory decision-making approach would include men and women, youth, civil society groups and the private sector (GNDR 2011b).

The indicator for participation had an average mean score of 2.4 (Figure 5a), reflecting the view that government does not fully integrate community and civil society organisations in decision making regarding risk prevention and preparedness, except during response when an incident occurs. The indicator on gender assesses the level of involvement of men and women in decision making at grassroots level. The overall score of 2.6 reflects the general sociocultural attitudes of the country. Survey results suggest that this is not directly linked to government policies or limited political will, but is due to cultural influences in some communities, where involvement of the female folk in decision making is still very limited (Atanga *et al*. 2010).



Source: Geotechnology, Environmental Assessment and Disaster Risk Reduction (GEADIRR), 2011, 'VFL Country Report for Cameroon' unpublished report, GEADIRR, Cameroon

FIGURE 5: (a) Indicators of Inclusion and participation. (b) Indicators of Capacity and Capability. (c) Indicators of Accountability and transparency.

An average score of 2.6 from this survey for inclusion of the rights and needs of youth and children in DRR suggests limited effort in consideration of children's and youth-specific needs on DRR in Cameroon. Comments from the respondents suggest that limited resources are often a major constraint for local governments. The mean score for the indicator on volunteering was 2.8, showing that local government support for volunteering activities is limited. The partnership indicator measured the level to which local government cooperates with the community, the private sector, civil society and others in implementing DRR activities. It had a mean score of 2.8, suggesting that partnership (especially with local organisations) does exist to a limited extent, with significant scope for improvement. A number of civil society organisations with interest in DRR activities are seriously hindered by the fact that their roles are not clearly defined in what should be a joint and cooperative effort. Whilst it is apparent that government does foster partnership, this seems to be partial in the view of one (civil society) respondent, who said:

> '… we are not considered as partners in all cases … when an incident occurs … I think this is biased. They [government] should involve us at all levels of decision making.' (Respondent A, 42-year-old clergyman)

Local capacity and capability

Accelerating the risk reduction process at local level in Cameroon requires that neccessary policies be put in place, indigeous knowledge be incoporated and effective planning undertaken, with adequate resources deployed. This requires decentralised systems with delegation of duties, providing neccessary training and improving expertise with a multi-stakeholder collaborative approach and coordination provided by government (GNDR 2011b). Ideally in DRR policies, legislation and the institutional framework are operational at all levels and are regularly updated. Our survey showed a score of 2.5 for the prevailing situation in Cameroon. The Department of Civil Protection in MINATD is in charge of disaster matters in the country (Ayanji 2004), and they are still in the process of putting in place regional bodies. Municipal-, district- and village-level guidelines on DRR are still a long way off.

The indicator on indigenous capacities aimed at assessing whether local government disaster prevention practices take into account indigenous local knowledge, skills and available

resources of the community. A mean score of 2.7 (see Figure 5b) indicates that this sometimes happens. Local government recognises traditional mitigation rituals, such as those used by the Bakweri, a people on the foothills of Mount Cameroon (Atanga *et al*. 2010).

The planning indicator assessed whether local government has a plan of action to put disaster prevention policies into practice. Such actions are reliant on clear disaster policies shared at national, regional, municipal, district and village levels. A mean score of 2.7 indicates that this happens to a certain extent. Implementation of the existing policies (Atanga *et al*. 2010) by the divisional, sub-divisional and district level local governments still strongly hinges on the central government (Department of Civil Protection) and on completion of the ongoing decentralisation process.

The financial resources indicator seeks to find out if the local government has an adequate budget for disaster prevention. A mean score of 2.2 shows lack of a specific (stand-by) disaster budget at local government level. Financial resources are usually mobilised when the disaster has happened. They are channelled via the Regional Governor to the local disaster management committee, which is usually set up when the disaster happens.

Decentralisation requiring definition and distinction of responsibilities and authority within local government is still ongoing, and a mean score of 2.6 correctly reflects this situation. The indicator on expertise investigates whether local government has sufficient expertise to carry out disaster prevention. A mean score of 2.3 shows a lack of expertise at local level to undertake DRR work in Cameroon. Whilst some municipal councils have fire brigades, some respondents noted major inefficiencies in some of these services. The training indicator aimed at assessing if local goverment is committed to building skills and competencies of local officials and community leaders in community-based risk management, for leadership and professional competencies to formulate, manage and review DRR policies, strategies, programmes and projects. With a mean score of 2.1, training had one of the lowest recorded in the survey. The indicator on governmental coordination recorded the highest mean score of 3.0, which reflects the fact that the different stakeholders (community representatives, civil society, local governments, etc.) recognise the coordination mechanism of government through MINATD's local structures (divisional and sub-divisional officers).

Information management measures the changing disaster risk landscape, reflected in a continuous and regularly updated process of gathering, analysis and dissemination of information. It had a score of 2.6, showing a limited extent of information management with measurable scope for improvement. There is a clear need for trained personnel within the local government institutions to gather, manage and update such information, and integrate it with local indigenous beliefs (Njome *et al*. 2010).

Accountability and transparency

The indicators of accountability and transparency on DRR still require significant improvement. The question on baselines measured the extent to which baselines have been established and benchmarks and time-bound targets set across line ministries and development sectors, to guide actions and drive progress. This indicator recorded one of the lowest average scores (2.1) together with the training indicator (see Figure 5c). From the survey results it is difficult to specify whether established baselines do exist. Whilst a number of strategies have been put in place, no examples of such baselines were evident in the field.

The question on monitoring assessed whether local governments regularly monitor and report on progress on disaster prevention. An average score of 2.4 indicates that such monitoring is carried out in a number of disaster-prone zones in the country, for instance in the Southwest Region around Mount Cameroon where seismic stations aim for real-time monitoring of the eruptive activity of the volcano (Ntepe *et al*. 2004). The problem noted by many respondents regarding this monitoring is the lack of information sharing with the local communities. This invalidates its potential usefulness to the frontline populations.

The question on complaints procedures measured whether local government provided ways for vulnerable people to make complaints and get responses on lack of progress in disaster prevention measures. It recorded a score of 2.3, requiring action in this area. Local government should collect, review and regularly map information on disaster risks and climate change. The score for the information gathering indicator was 2.4, showing a need for improvement.

Municipalities do not have separate disaster departments. In addition to MINATD, gathering of information on disasters over the national territory is also done by the universities, research institutes and the Ministry of the Environment and Nature Protection. The indicator on information dissemination assessed whether local government provided vulnerable people with updated, easily understood information on disaster risks and disaster prevention measures. A mean score of 2.4 was recorded, showing some activity with significant scope for improvement.

General discussion

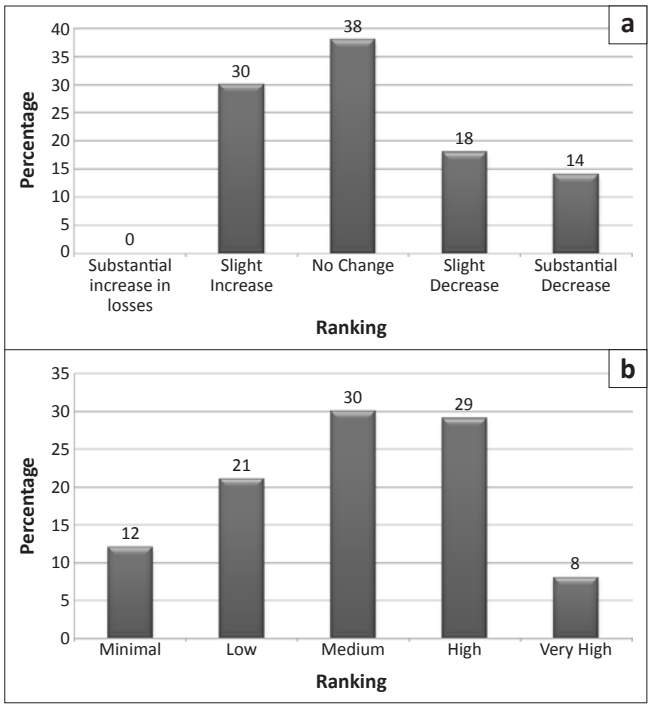
To give a general perspective, analyses (of the 20 287 scores from the 69 countries that participated in the survey) on a bipolar variable, with negative scores representing increased disaster losses (poor performance) and positive scores representing decreased losses (good performance), showed that Bangladesh and Malawi (mean scores of 1.12 and 0.88 respectively) were the two top countries, where respondents felt that disaster losses have reduced. Vietnam and Pakistan (mean scores of −1.34 and −1.35 respectively) were the two bottom countries, where respondents felt that losses have increased most dramatically. Cameroon occupied the

13th position with a mean score of −0.17 (GNDR 2011b), suggesting no substantial increase in disaster losses since 2005 (begining of the HFA). This is reflected in the 30% of informants who felt that there had been a slight increase, 38% who thought there had not been any change, 18% who felt that there had been a slight decrease, and 14% who held the view that there had been a substantial decrease (Figure 6a).

Figure 6b shows the respondents' views (minimal, low, medium, high and very high) on risk perception. Whilst 12% of respondents have a minimal perception of disaster risk, 21% have a low perception. The 29% of respondents who have a high perception come from the Southwest Region, which suggests that even though more than 10 years have elapsed, they still have memories of the 2001 landslides and floods in Limbe (Che *et al*. 2011, Gaston 2009), and the 1999 and 2000 Mount Cameroon eruptions that generated lava flows. The lava cut a major highway, destroyed plantations and required evacuation of people (Suh *et al*. 2003). Likewise, the Kribi earthquake of 2001 (Ntepe *et al*. 2004) can account for the 8% of respondents with very high perceptions from the South Region.

Informants from local governments had the highest (2.4) average score on the local governace indicators; however, community representatives (2.0) and civil society (2.1) feel that there is still a lot to be achieved on DRR in Cameroon. This confirms our initial finding that the local community and civil society are not involved in knowledge creation and decision making in DRR matters in the country (GEADIRR 2009).

Seventy per cent of the questionaires were administered in urban areas and 30% in rural areas. This reflects our risk



Source: Geotechnology, Environmental Assessment and Disaster Risk Reduction (GEADIRR), 2011, 'VFL Country Report for Cameroon', unpublished report, GEADIRR, Cameroon

FIGURE 6: (a) Percentage of respondents' views on changes in disaster losses since 2005. (b) Perception of respondents on disasters and hazards within their environment.

profile developed before the survey, which shows that most disasters (e.g. floods) occur in urban areas. Even though the general trend for local governance indicators is similar for both rural and urban dwellers, the mean score for urban dwellers is lower (< 3) than for rural dwellers (3.1). The feeling by urban dwellers that there is only limited progress can be explained by the fact that urban settings experience faster (ecomomic and developmental) growth rates. Rural settings lack basic facilities such as electricity, pipe-borne water, roads and health facilities. This, added to the demand for jobs and better living conditions, leads to an exodus from rural areas. Scarcity (and thus high cost) of land in the urban areas prompts most migrants to build or settle in slums or risk zones. This heightens the need for urban development planners to fully integrate DRR policies in their development schemes.

The survey was male (79%) biased, the dominance of men over women clearly reflecting the low number of the latter in leadership (chiefs, councillors, divisional and sub-divisional officers, etc.) positions. Both groups feel that more financial resources are required, and that more effort is needed in providing training. The survey exposed the lack of direct channels for complaints on DRR by local communities. A good example here is payment of compensation by government to people whose cash crops (palms) were destroyed by lava in the 1999 Mount Cameroon eruption. Compensation was paid almost exclusively to men, who are owners of the plantations, even though women also lost farmland for food crops.

Training had one of the lowest scores in the local governance survey. Given that the current trend of climate change (leading to emerging new disasters) is likely to affect the so-called developing countries more, there is a need in Cameroon to create an independent body in charge of disasters. Such an organ would (in addition to carrying out relief and resettlement activities) be able to hire its own personnel directly, do training, and carry out the kind of fundamental research and forecasting that will establish causative links between climate change and emerging new disasters.

Conclusion and recommendations

These survey results on local governance on DRR in Cameroon provide evidence that the government is committed to building a disaster-resilient nation. However, for progress to be effectively felt at the frontlines, a number of factors need to be considered. The ongoing decentralisation process would be an important vehicle for sharing responsibilities and resources between municipal and local stakeholders. This will foster a sense of ownership, leading to greater participation and accountability. Emphasis should be laid on a more participatory approach, involving civil society and local communities at the different levels of the DRR process.

DRR in the country needs to move a step higher and include fundamental research and forecasts, using space technology to establish the causative links between climate change and disasters. The achievement of the MDGs with regard to poverty reduction also depends on pursuing efforts in this direction.

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For Cameroon to achieve its vision as an emerging economy by 2035, greater efforts must be made to integrate DRR as an urgent development need, with an emphasis on grassroots level involvement.

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Competing interests

We declare that we do not have any financial or personal relationship(s) that inappropriately influenced the writing this article.

Authors' contributions

B-W.G. (GEADIRR) was the focal person of this Cameroon VFL 2011 project – coordinated and participated at the all the different stages of the project, for example, the development of a risk profile, briefing of participating organisations, administration of questionnaires, and so forth. A.F-T. (GEADIRR; IRGM, MINRESI) was the project team member – participated in the development of the risk profile, briefed participating organisations on the VFL methodology, participated in the development of case studies, contributed significantly in the organisation and running of community and national consultation meetings in addition to doing reporting. C.B. (Adelphi Research Gemeinnützige GmbH) was the Technical adviser of this 2011 Cameroon VFL project team and contributed ideas towards organisation of community and national consultation meetings. Z.T.I. (GEADIRR; MINEP) participated in the data entering, community consultations and in preparing the final VFL 2011 Cameroon survey report.

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