PUBLIC-PRIVATE PARTNERSHIPS IN LOCAL DISASTER MANAGEMENT: A PANACEA TO ALL LOCAL DISASTER MANAGEMENT ILLS?

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1 Introduction

Since the dawn of their existence human beings have been affected by disasters. It is trite that disasters often result in the serious disruption of the functioning of a community or society, as they may involve human, material or environmental loss and damage which often exceeds the ability of an affected community to recover by using its own resources. The last decades have seen the number of disasters increase, and they have become more intense. Worldwide, an estimated 217 million people were affected by disasters in the year 1990, and it is predicted that 375 million people will be affected by the end of the year 2015.

Although South Africa is generally not regarded as a country at high risk of disaster, the country is struck from time to time by damaging runaway veld- or wildfires, severe weather events, droughts, floods, extreme hailstorms, gales, fires, earthquakes and the occurrence of sinkholes as a consequence of mining in dolomitic areas. Increasingly such disasters have an impact on the lives of South Africans as well as on their property, environment, infrastructure, economic and social development and day-to-day activities. Studies show that between the years 1981 and 2013 over 16

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Coppola Introduction to International Disaster Management 1.

Disasters arise from both natural and anthropogenic causes. Examples of natural disasters include, amongst others, droughts, floods and earthquakes. A natural disaster cannot be produced, influenced or prevented by man. Anthropogenic disasters, however, arise from human activities and are often categorised as "technological". Examples of human or technological disasters include, for instance, rail and air crashes, shipwrecks, and oil spills. Smith Environmental Hazards 3-7.

2 This is the internationally accepted definition for "disaster". See UNISDR Terminology 9. This definition has also been adopted in South Africa in the Disaster Management Act 57 of 2002 (the DMA).

Hagelsteen and Becker 2013 IIDRR 4.


Botha and Van Niekerk 2013 Jamba 2-3.

Louw and Van Wyk 2011 Civil Engineering 16.
million people in South Africa were affected by disasters and that in the years to follow these numbers could escalate significantly.\(^7\) The scope of the impact and the results of disasters emphasise the urgent need for improved disaster risk reduction and disaster management generally and in South Africa.

Section 24 of the *Constitution of the Republic of South Africa, 1996 (the Constitution)* provides everyone with the right to an environment that is not harmful to a person's health and wellbeing.\(^8\) It may be argued that this right includes, *inter alia*, a person's sense of environmental security and safe keeping in relation to the potential risks and dangers of disaster.\(^9\) The responsibility to intervene for the protection of this right lies with the government of South Africa.\(^10\) While disaster management is a functional area of competence of national and provincial government,\(^11\) local government is not exempted from disaster management and disaster risk reduction responsibilities.\(^12\)

Practice has shown that the actual implementation and planning of disaster management is focussed in the local government sphere.\(^13\) This thinking has also pervaded chapter five of the DMA, which establishes a number of responsibilities for municipalities both for the prevention and for the management of disasters.\(^14\)

Recent studies indicate that municipalities in South Africa are severely under-resourced.\(^15\) In addition to capacity constraints regarding service delivery,\(^16\) municipalities are unable to adequately fulfil their local disaster management (LDM) responsibilities. In the past, municipalities have addressed their incapacities to deliver

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\(^7\) Van der Berg, Du Plessis and Murphree "Local Disaster Risk Reduction" (forthcoming).

\(^8\) Section 24(a) and (b) of the *Constitution of the Republic of South Africa, 1996 (the Constitution)*.

\(^9\) See Du Plessis 2011 *SAJHR* 293; Van der Berg and Du Plessis 2013 *SAPL* 449-450.

\(^10\) Section 7(2) of the *Constitution* places an obligation on the entire government of South Africa to respect, promote, protect and fulfil the rights contained in the Bill of Rights. S 41 of the *Constitution* further requires all spheres of government to secure the well-being of the people.

\(^11\) Schedule 4A of the *Constitution*.

\(^12\) Section 152(1)(d) of the *Constitution* provides that the objects of local government include, *inter alia*, the promotion of a safe and healthy environment. Moreover, s 156(4) provides for the assignment to a municipality, by agreement and subject to any conditions, of the administration of any matter listed in schedule 4A (eg disaster management) that necessarily relates to local government, if that matter would most effectively be administered locally.

\(^13\) Disaster risk reduction and management is most adequately depicted, measured and monitored at the local level where government more directly interacts with the day-to-day lives of communities. SALGA 2011 http://bit.ly/1bhyoPA.

\(^14\) Section 54 of the DMA.

\(^15\) See section 2 paragraph 2.2 below.

services by entering into public-private partnership (PPP)\(^{17}\) agreements with the private sector as a vehicle for the successful development and implementation of government (public sector) projects.\(^{18}\)

Despite the support and successes of PPPs for service delivery purposes,\(^{19}\) the current legal framework for LDM and PPPs in general does not provide any guidelines on the use of PPPs specifically for disaster management purposes.\(^{20}\) Also, currently no PPPs have been undertaken or planned for between municipalities and the private sector in South Africa for LDM purposes.\(^{21}\) It therefore appears that the potential and function of PPPs between local government (municipalities) and the private sector (industries etc.) in fulfilling the legally entrenched disaster management duties of municipalities has been largely underutilised in the disaster management arena. This situation contextualises the aim of this article, which is to critically discuss and describe the function of PPPs specifically in fulfilling the legally entrenched disaster management mandate of municipalities. The article is written from a legal perspective. Granted, some of the inadequacies in South Africa’s disaster management are entrenched in issues of implementation, poor governance and management deficiencies,\(^{22}\) but due to length constraints these inadequacies cannot be dealt with at any length or in any detail.

\(^{17}\) A PPP is generally defined as a relationship established (by virtue of a contractual agreement) between the public sector and the private sector wherein the private sector delivers public services. See section 3 paragraph 3.1 below.

\(^{18}\) Metcalfe 2013 Civil Engineering 30.


\(^{20}\) See section 2 paragraph 2.2 below.

\(^{21}\) In January 2000 the Ukuvuka: Operation Firestop Campaign initiative was launched by the South African National Parks, the South Peninsula Municipality and the Cape Metropolitan Council, among other institutions. This PPP was established to assist municipalities and other role-players to reduce the risk of disaster caused by wildfires in the Cape Peninsula and to contribute to poverty alleviation. See Kruger 2001 http://bit.ly/1IKb1cr. The available literature does not indicate that this initiative was continued past 2004 or that it was further researched to determine the extent of the benefits of this PPP specifically for LDM purposes (own emphasis). As of March 2013 there are no PPPs officially in progress or registered for fire prevention or for the fulfilment of any other LDM responsibility. This is confirmed on the National Treasury’s PPP webpage. For a list of national, provincial and municipal PPPs see National Treasury PPP Unit Date Unknown http://bit.ly/PRI9fc.

\(^{22}\) See Van Niekerk 2014 Disasters 858-877 for an in-depth discussion of the inadequacies of South Africa’s disaster management legal framework as it pertains to issues of implementation of law and policy and the poor governance and management of institutional disaster management structures and functionaries etc.
2 The legally entrenched disaster management duties of municipalities in South Africa

2.1 The legal framework for local disaster management in South Africa

South Africa has a well-developed disaster management law and policy framework which establishes an array of disaster management duties for local government. Together with the Constitution, a suite of legislation exists that includes disaster management legislation, legislation dealing with specific types of disaster, and other laws which regulate some aspects of disaster management in specific sectors. The main focus of this section falls upon the framework legislation for disaster management in South Africa.

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23 Humby Analysis of Legislation.
24 See section 1 above. The Constitution further defines a number of specific functional areas of local government competency. The areas include, amongst others, building regulations, municipal planning, storm-water management systems, gas and electricity regulation, firefighting services, environmental health, and water and sanitation. Each of these areas directly ties in with disaster risk reduction and management. Notably local government holds administrative powers and the power to develop By-laws for each of these areas. Municipalities may therefore manage disasters by developing By-laws for any of these areas that directly relate to disaster management in their jurisdictions. See schedules 4B and 5B of the Constitution.
25 Such as the DMA and National Disaster Management Framework (2005). Hereafter the NDMF.
26 Such as the Fire Brigade Services Act 99 of 1987; the National Veld and Forest Fire Act 101 of 1998; and the Safety at Sports and Recreational Events Act 2 of 2010.
27 These sectors include, amongst others, the environmental management sector, which is regulated by the National Environmental Management Act 107 of 1998; the agricultural resource sector, which is regulated by the Conservation of Agricultural Resources Act 43 of 1983; the mining sector, which is regulated by the Mineral and Petroleum Resources Development Act 28 of 2002; the energy sector, which is regulated by the National Climate Change Response White Paper (2011) among other instruments; the building construction sector, which is regulated by the National Building Regulations and Building Standards Act 103 of 1977; and the land use and planning sector, which is regulated amongst other legislation by the Spatial Planning and Land Use Management Act 16 of 2013.
28 While all of the laws mentioned above establish specific LDM duties for municipalities, the scope of this article does not allow for a discussion for these laws. For additional information in this regard see Van der Berg, Du Plessis and Murphree "Local Disaster Risk Reduction" (forthcoming).
2.1.1 The Disaster Management Act

The DMA regulates all aspects of disaster management in South Africa. Its provisions apply to any disaster situation in the country. The Act places emphasis on disaster prevention, reduction and mitigation in addition to emergency preparedness, rapid and effective response and post-disaster recovery. Essentially, the DMA regulates disaster management by providing for the following: an extensive institutional framework for disaster management; various disaster management policy development mandates; and procedures for the management, classification and declaration of disasters. The following section briefly reviews these areas with a focus on the provisions applicable to local government.

2.1.1.1 Institutional arrangements for disaster management

The DMA establishes institutional structures that play both a supportive and a facilitative role in ensuring effective disaster management in South Africa. The first and chief institutional structure is the Intergovernmental Committee on Disaster Management (ICDM). The ICDM comprises Cabinet Members involved in disaster management, Members of the Executive Council (MECs) of each province involved in disaster management, and members of municipal councils. It is tasked, amongst other matters, with advising Cabinet on issues relating to disaster management. In addition to the ICDM, the DMA calls for the establishment of disaster management centres in all spheres of government. With respect to local government the DMA provides that each metropolitan and district municipality must establish a disaster management centre for its municipal area, which must specialise in issues concerning disasters and disaster management. Local municipalities are, however,

29 Humby Analysis of Legislation 27.
30 Van der Berg Legal Perspectives 28.
31 Preamble of the DMA.
33 See ch 2 of the DMA.
34 Sections 4(1)(a)-(c) of the DMA.
35 Section 4(3) of the DMA.
36 See ss 29 of the DMA.
37 Section 42(1)(a) of the DMA. See paras 7.4.2 and 7.4.1.1 of the NDMF.
38 Section 44 (1)(a) of the DMA.
not required to establish disaster management centres but may operate a centre in partnership with a district municipality.\footnote{Section 43(2)(b) of the DMA.} The start-up costs for municipal disaster management centres (MDMCs) must be funded by national government through a once-off conditional grant. Such conditional grants must be disbursed to district municipalities, while metropolitan municipalities may receive funding only to cover the additional costs required to establish their centres.\footnote{See ss 8, 29 of the DMA.}

MDMCs may also act as advisory and consultative bodies on issues concerning disasters and disaster management in the municipal area for other organs of state and statutory functionaries.\footnote{Section 44(1)(d)(i) of the DMA.} MDMCs have advocacy and awareness raising responsibilities, in that such centres must promote disaster management capacity building, training and education in their communities.\footnote{Section 44(1)(h) of the DMA.} These centres must further ensure a multi-actor approach to disaster management by integrating their disaster management responsibilities or functions with those of all other municipal entities within the area, including other potential role-players.\footnote{Sections 44(1)(b)(ii)-(iii) of the DMA.}

Further, when a disaster occurs or is threatening to occur in the area of a municipality, the MDMC of the municipality concerned must determine whether the event should be regarded as a disaster in terms of the DMA\footnote{Section 49(1) of the DMA.} and if so, must, amongst other things, immediately initiate efforts to assess the magnitude and severity or potential magnitude and severity of the disaster,\footnote{Section 49(1)(a) of the DMA.} inform the national centre and relevant provincial disaster management centre of the disaster,\footnote{Section 49(1)(b) of the DMA.} and initiate the implementation of any contingency plans and emergency procedures that may be applicable in the circumstances.\footnote{Section 49(1)(D) of the DMA.} MDMCs are also required to submit annual reports to their relevant municipal councils on their activities during the year and the disasters that have occurred during the year of reporting.\footnote{Section 57(1)(a) and (c) of the DMA.}
Other significant institutional structures include advisory forums. These forums serve as institutions for consultation and coordination between state officials in all three spheres of government and also for the same purpose between important disaster management role-players in civil society such as traditional leaders, medical, paramedical and hospital organisations, the disaster management profession, and relevant non-governmental organisations (NGOs). While the establishment of a municipal advisory forum is not compulsory, the NDMF has indicated that it is difficult to envisage how, without such a forum, disaster management or disaster risk reduction could effectively be implemented at local government level.

2.1.1.2 Disaster management policy development and planning mandate

The DMA compels each sphere of government to engage in disaster management policy development through the preparation of disaster management frameworks and disaster management/disaster risk management plans. District and metropolitan municipalities are specifically required to establish municipal disaster management frameworks (MDMFs). MDMFs must specifically ensure an integrated, coordinated and uniform approach to disaster management in the municipality in question. The DMF may be regarded as a strategic policy for disaster management within the municipality and must, among other things: establish formal consultative processes that provide participative planning for disaster management and disaster risk management; define an appropriate vision of and approach to disaster management and disaster risk management for the area concerned; define the processes for undertaking disaster risk assessment for the area concerned; specify arrangements for disaster risk reduction planning, including response and recovery planning; identify processes for building public awareness; and define supportive funding arrangements for implementing disaster management and disaster risk management.

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49 Humby Analysis of Legislation 29.
50 Para 1.3.1.3 of the NDMF.
51 Section 42 of the DMA.
52 Section 42(1) of the DMA.
53 Para 3.1.1.1 of the NDMF.
In addition to disaster management frameworks, all municipalities (metropolitan, district and local) must prepare a disaster management plan.\textsuperscript{54} The disaster management plan translates into an implementation strategy for disaster management and must include a disaster risk management plan.\textsuperscript{55} The disaster management plan must be updated and reviewed on a regular basis and must, for instance, include: an assessment of the types of disasters that are likely to occur in the municipal area, and their effects;\textsuperscript{56} a system of incentives that will promote disaster management in the municipality;\textsuperscript{57} an identification of the areas of weakness in capacity to deal with possible disasters;\textsuperscript{58} and emergency procedures in the event of disaster.\textsuperscript{59} The disaster management plan must also promote disaster management research;\textsuperscript{60} provide appropriate prevention and mitigation strategies;\textsuperscript{61} place emphasis on measures to reduce the vulnerability of disaster-prone areas;\textsuperscript{62} and include any other matter that may be prescribed.\textsuperscript{63} It is further noteworthy that a disaster management plan must form part of a municipality’s integrated development plan (IDP),\textsuperscript{64} including all IDP projects, processes, programmes and structures.\textsuperscript{65} Notably the \textit{Local Government: Municipal Systems Act}\textsuperscript{66} (\textit{Systems Act}) makes provision for the alignment of the municipal IDP with a municipality’s budget and performance management system. The DMA further determines that each municipality must consult the local community on the preparation of the disaster management plan.\textsuperscript{67}

The DMA also enables municipalities to develop by-laws for disaster management. Such by-laws may be adopted in the event of the declaration of a local state of disaster and may concern, amongst other matters: the release of municipal resources to assist

\textsuperscript{54} See ss 52, 40, 25 of the DMA.
\textsuperscript{55} See Humby \textit{Analysis of Legislation} 29; para 3.1.1.2 of the NDMF.
\textsuperscript{56} Section 53(2)(b) of the DMA.
\textsuperscript{57} Section 53(2)(d) of the DMA.
\textsuperscript{58} Section 53(2)(h) of the DMA.
\textsuperscript{59} Section 53(2)(k) of the DMA.
\textsuperscript{60} Section 53(2)(g) of the DMA.
\textsuperscript{61} Section 53(2)(i) of the DMA.
\textsuperscript{62} Section 53(2)(c) of the DMA.
\textsuperscript{63} Section 53(2)(k) (vi) of the DMA.
\textsuperscript{64} Section 53(2)(a) of the DMA. See s 26(g) of the \textit{Local Government: Municipal Systems Act} 32 of 2000.
\textsuperscript{65} Para 3.4.2 of the NDMF.
\textsuperscript{66} \textit{Local Government: Municipal Systems Act} 32 of 2000 (\textit{Systems Act}).
\textsuperscript{67} Section 53(2) of the DMA.
in managing the disaster; the control of the occupancy of premises in the disaster-stricken or threatened area; the dissemination of information required for dealing with disaster; the facilitation of response and post-disaster recovery and rehabilitation; other steps that may be necessary to prevent an escalation of disaster or to alleviate, contain and minimise the effects of disaster; and penalties for any contravention of the by-law.68 Municipalities are further encouraged to assess existing by-laws in order to ensure that risk-promoting behaviour is discouraged and that the potential for loss in the event of disaster is minimised.69 Notably, the same is encouraged for municipal land-use schemes and zoning regulations.70 Municipalities may also introduce standards for "risk-proofing" lifeline services and critical facilities from known priority disaster risks.71

2.1.1.3 The management, classification and declaration of disaster

The DMA distinguishes between "national", "provincial" and "local" disasters and provides an array of responsibilities for the classification and declaration of such disasters for each relevant sphere of government.72 With respect to "local disasters" (thus a disaster affecting a single metropolitan, district or local municipality, which the relevant municipality is able to deal with it effectively)73 the DMA provides the relevant MDMC with the authority to classify the event as a "disaster" and provides the council of the municipality with the responsibility to coordinate and manage the local disaster that has occurred in its area.74 In addition, the DMA provides that the municipal council must coordinate and manage the disaster in terms of existing legislation, contingency plans and by-laws,75 and stipulates further that if the existing legislation, contingency plans or by-laws do not adequately provide for measures allowing the municipality to deal effectively with the disaster, the municipality may declare a disastrous event as a local state of disaster.76 The declaration of a local state of disaster allows the

68 See ss 55(2)-(4) of the DMA.
69 Para 3.4.3 of the NDMF.
70 Para 3.4.3 of the NDMF.
71 Para 3.4 of the NDMF.
72 See ss 23, 35, 49 of the DMA.
73 Section 23(4) of the DMA.
74 Section 55(1) of the DMA.
75 Section 54(3)(a) of the DMA.
76 Section 54(3)(b) of the DMA.
municipal council to prescribe extraordinary measures for emergency responses and relief, such as the release of available resources (ie stores, equipment, vehicles and facilities); the evacuation to temporary shelters of all or part of a population from the disaster stricken or threatened area; the regulation of traffic to, from or within the disaster stricken or threatened area; and emergency procurement procedures.

2.2 Local disaster management in South Africa: status quo

The DMA establishes a plethora of disaster management responsibilities for municipalities. These responsibilities range from establishing, managing and funding institutional structures for disaster management; to preparing adequate disaster management and disaster risk reduction plans and policies that aim to prevent or reduce the risk of disaster; and to responding to disasters once they have occurred.

While the DMA does provide municipalities with options to assist municipalities in fulfilling this extensive mandate (ie the establishment of volunteer units and providing access to funding) practice has indicated that municipalities are often reluctant to establish volunteer units (given the fact that volunteers must be trained and that equipment for the volunteers must be purchased, maintained and updated) and that funding often only covers start-up costs for establishing institutional structures thereby rendering the management and functioning of the structures rather challenging. Moreover, while the DMA does require: a) the inclusion of "other role-players" in terms of sharing and executing disaster management and risk reduction activities, and b) a "multi-actor approach to disaster management", there is an absence of clear guidance to municipalities on whether "other role-players" and a "multi-actor approach to disaster management" enables municipalities to fulfil their disaster management mandate with the use of PPP agreements specifically.

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77 Section 55(2)(a) of the DMA.
78 Section 55(2)(d) of the DMA.
79 Section 55(2)(e) of the DMA.
80 Section 55(2)(l) of the DMA.
81 See paragraph 2.1 above.
82 Section 58(1) of the DMA.
84 See paragraph 2.1.1 above.
In addition to the pervasive silence and lack of guidelines and financial assistance in the current legal framework, the successful fulfilment of the LDM mandate further requires that municipalities have sufficient institutional,\(^{85}\) human,\(^{86}\) material\(^{87}\) and financial resources.\(^{88}\) However, many municipalities in South Africa are inadequately resourced to fulfil their disaster management responsibilities.\(^{89}\) After conducting a disaster management status assessment of municipalities in South Africa, the South African Local Government Association (SALGA) confirmed that national government is slow in providing and releasing funds for disaster management in the local government sphere,\(^{90}\) a situation which impairs municipal efforts to provide timely and adequate support to disaster victims.\(^{91}\) It was also found that municipalities often contravene the provisions in the DMA\(^{92}\) requiring the integration of disaster management plans into IDPs\(^{93}\) or the establishment of MDMCs,\(^{94}\) which contravention results in the slow allocation of disaster funding from national government.\(^{95}\) In addition, SALGA has indicated that municipalities lack appropriate and adequate equipment,\(^{96}\) adequately
trained personnel such as disaster risk management officials, and the commitment of local government officials and politicians to disaster management.

It does not appear that the *status quo* will improve in the near future. The LDM function itself is particularly challenging as it goes beyond pure line-function responsibility and requires a variety of types of expertise from very different professions. Such expertise includes, for example: governance expertise, to ensure that municipal disaster management plans and frameworks are aligned and coordinated with national and provincial disaster management plans and frameworks; construction expertise in rebuilding damaged or fallen structures; medical expertise in dealing with death, disease or injury; emergency response expertise such as ambulance or fire response teams; and staffing expertise such as appointing the correct persons needed to carry out all of the different disaster management duties. LDM may subsequently be regarded as a dynamic process which involves many disciplines such as science, engineering, health, welfare, architecture, social sciences, management and law, as well as traditional emergency groups. Municipalities cannot manage disasters in isolation and as single role players. LDM is a multi-faceted and multi-sectoral process which requires significant effort and dedication from municipalities as well as other role players. This article is underpinned by the argument that one such role-player could be the private sector.

3 Public-private partnerships as local governance tools

As alluded to above, municipalities in South Africa face a number of impediments to successfully fulfilling their disaster management mandate. Some municipal areas also

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97 Most municipal disaster management centres function with between 1 and 10 employees. See SALGA 2011 http://bit.ly/1bhyoPA.
99 SALGA 2013 http://bit.ly/1hNj0gO.
100 NDMC Date Unknown http://bit.ly/1kQu64T.
101 Schwab and Brower "Increasing Resilience" 268.
102 Cutter et al."Managing the Risks from Climate Extremes" 299.
103 Burnham "Disaster Definitions" 28. Also see SALGA 2013 http://bit.ly/1hNj0gO.
104 Van Riet 2012 *Jamba* 22.
105 Uys 2005 *JPA* 409.
106 NDMC Date Unknown http://bit.ly/1kQu64T.
107 UNISDR *From Shared Risk to Shared Value* 1-288.
face the visible effects of climate change and the growing demand for improved service delivery generally.\textsuperscript{108} The \textit{White Paper on Local Government}\textsuperscript{109} recommends that municipalities look for innovative ways of addressing such challenges, and while there are several policy and legal tools available to do so,\textsuperscript{110} PPPs do seem to be an instrument of choice (albeit in the context of service delivery challenges).

### 3.1 Public-private partnerships in the South African legal context

PPPs are policy tools utilised by governments in the execution of their roles, duties, and functions.\textsuperscript{111} Municipal PPPs in the South African context specifically are defined by the \textit{Municipal Public Private Partnership Regulations}\textsuperscript{112} to the \textit{Local Government: Municipal Finance Management Act}.\textsuperscript{113} These regulations describe a PPP as a commercial transaction between a municipality and a private party\textsuperscript{114} in terms of which the private party: (a) performs a municipal function\textsuperscript{115} for or on behalf of the municipality or: (b) acquires the management or use of a municipal property for its own commercial purposes and: (c) assumes substantial financial, technical and operational risks in connection with the performance of the municipal function, the management or use of the municipal property, or both.\textsuperscript{116} The private party receives a benefit from performing the municipal function or from utilising the municipal property or from both, by way of: (i) a consideration to be paid or given by the municipality or a municipal entity under the sole or shared control of the municipality; (ii) charges or fees to be collected by the private party from users or customers of a service provided to them; (iii) or a combination of these benefits.\textsuperscript{117}

\textsuperscript{108} O’Brien et al “Local Government and Disaster” 639.
\textsuperscript{110} Examples of these include training and capacity building initiatives, traditional procurement, property taxation, and user charges. See Bekink \textit{Principles of South African Local Government Law} 78; and ss F, G of the \textit{White Paper}.
\textsuperscript{111} Hodge, Greve and Boardman “Introduction” 4.
\textsuperscript{112} See the MFMA regulations for municipal PPPs published as GNR 309 in GG 27431 of 1 April 2005.
\textsuperscript{113} \textit{Local Government: Municipal Finance Management Act} 56 of 2003 (hereafter the MFMA).
\textsuperscript{114} A private party excludes a municipality, a municipal entity and an organ of state. See GNR 309 in GG 27431 of 1 April 2005.
\textsuperscript{115} Municipal function means a municipal service or any other activity within the legal competence of a municipality. See GNR 309 in GG 27431 of 1 April 2005.
\textsuperscript{116} GNR 309 in GG 27431 of 1 April 2005.
\textsuperscript{117} GNR 309 in GG 27431 of 1 April 2005.
It is possible to identify some key generic components of municipal PPPs. Firstly, an agreement (presumably a written contract) must be in place. Such a contractual agreement defines the project and includes the agreed objectives of the public (procuring) institution (ie the municipality) and the private party involved. Secondly, at least two entities are involved, one being the public institution (the municipality) and the other being the private entity (eg a company). Each party plays a key role in each stage of the project. Thirdly, either the private party must perform a public institutional function for or on behalf of the public institution, or the private party acquires public/state land for its own commercial purposes. Either way, there must be the pursuit of a common goal and individual benefit to each contracting partner. Fourthly, there is a substantial transfer of risk (financial, technical and/or operational) to the private party. Not all risk is transferred to the private party; only the risks that the private party is best able to manage. Finally, a return of benefit (in the form of financial remuneration) is essential. The payment arrangements or benefits are based on outputs, related to the provision of services and/or infrastructure and services provided by the private party.

Municipal PPPs in South Africa are specifically aimed at expanding municipal infrastructure and service delivery capability by appointing a private party to perform...
a municipal function. South Africa's *Systems Act* enables municipalities to exercise their executive and legislative authority by appointing external service providers or mechanisms to provide municipal services. In this context the relationship between a municipality and the external service provider is regulated by municipal service partnerships, or PPPs. An external mechanism includes, amongst other possible partners, a community-based organisation or other NGO legally competent to enter into a contractual agreement, or any other institution, entity or person legally competent to operate a business activity. The reference to "any other institution, entity or person competent to operate a business activity" is understood to include members of the local community, existing providers of urban services and donors or external consultants, as the other typical partners in a PPP. Each municipality may determine whether to provide the services itself (ie internally) or through an external mechanism. Should a municipality decide to explore service provision by an external mechanism, it must also conduct a feasibility study. The feasibility study is essential in determining if a proposed external mechanism, such as a PPP, would be in the best interest of the municipality.

In addition to the *Systems Act*, the Local Government: *Municipal Finance Management Act* (MFMA) provides conditions under which a municipality may enter into a PPP agreement and also requires that before entering into a PPP agreement the municipality must conduct a feasibility study. Once the feasibility study has been

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131 Section 11(3)(f) of the *Systems Act*.
132 In general, see the *White Paper on Municipal Service Partnerships* (2004). Also see s 76 of the *Systems Act*.
133 Sections 76(b)(iv) and (v) of the *Systems Act*.
135 Section 78 of the *Systems Act*.
136 Section 78(c) of the *Systems Act*. Also see s 80(3) of the *Systems Act*. The feasibility study explains the strategic and operational benefits of the PPP for the municipality and must determine whether the capacity of the municipality can effectively monitor, manage and enforce the agreement. See Van der Berg *Legal Perspectives* 49-53.
137 GNR 1535 in GG 25605 of 24 October 2003.
139 The conditions are a) that the agreement will offer value for money for the municipality; b) be affordable for the municipality; and c) transfer appropriate technical, operational and financial risk to the municipality. Ss 120(1)(a)-(c) of the MFMA.
140 Section 120(4)(a) of the MFMA.
concluded and a decision has been made to enter into the PPP agreement, the performance of the service under the PPP agreement must be monitored on a monthly basis and the capacity within the municipal administration must be managed accordingly.\textsuperscript{141} With the above discussion in mind, it is submitted that municipalities in South Africa are, for the purposes of service delivery (and also disaster management services, for example) able to enter into PPP agreements.

4 Public-private partnerships as tools for local disaster management

4.1 Public-private partnerships in disaster management: relevance and function

PPPs can in general and in the LDM context be of significant value to municipalities. In general, PPPs have the potential to deliver better value for money than traditional procurement practices\textsuperscript{142} by: a) increasing a municipality's service delivery capacity and infrastructure expansion by utilising private sector capital and skills; b) by appropriately devolving risk to the party who is best able to manage it; and c) by improving the level and quality of service delivery by using private sector expertise to introduce innovative and cost-saving ways to organise and carry out services, for example.\textsuperscript{143}

With regard to PPPs for disaster management, several industries are well-positioned to leverage their relevant expertise, and many industries, such as engineering and construction-, information communication technology and telecommunication-, (ICT and Telecommunication) and the media and entertainment industry may be regarded as key role-players in assisting local government in disaster management activities.\textsuperscript{144}

\textsuperscript{141} Sections 116(2)(a)-(c) of the MFMA.
\textsuperscript{142} As Price Waterhouse Coopers (PWC) indicate: "The key contrast between PPPs and traditional procurement is that with PPPs the private sector returns are linked to service outcomes and performance of the asset over the contract life. The private sector service provider is responsible not just for asset delivery, but for overall project management and implementation, and successful operation for several years thereafter." Davies and Eustice 2005 http://pwc.to/1gzIoUk; National Treasury PPP Unit 2007 http://bit.ly/1kRrmo7o.
\textsuperscript{143} See Nzimakwe 2006 Africanus 55; Davies and Eustice 2005 http://pwc.to/1gzIoUk; and Seemela 2008 JPA 486.
\textsuperscript{144} World Economic Forum Building Resilience to Natural Disasters 7. Also see Mitchell et al "National Systems" 347.
For example, it is widely known that many fatalities during disasters are caused by the collapse of buildings - therefore engineering and construction companies are essential to developing resilience to disaster, since they partake in a standard setting role in land-use planning and building design. These companies also play an important role in directing newly proposed developments away from known hazardous locations, through choosing to develop in safer areas, for instance. Disaster management initiatives can also benefit from ICT and telecommunication companies in that these companies can apply the newest communication technologies in the development of useful monitoring and communication systems, such as early warning systems, for example. Media and entertainment companies also have an important role to play in disaster management. These companies can typically raise awareness of disasters and disaster risk management through news and social media. Involving the private sector in disaster management may therefore be crucial to achieving resilient communities. PPPs enable the public and private sector to collectively utilise each of their resources and capabilities to identify interdependencies, needs, and resources before disasters occur in an effort to be better prepared for the effects of the disaster. Moreover, when disasters occur, the public and private sector can coordinate their resources in order to efficiently respond to and recover all disaster stricken areas as opposed to focusing on one specific area at a time.

PPPs between municipalities and businesses in the private sector can also alter the strategic focus of municipalities. When a municipality views the involvement of a

145 World Economic Forum Building Resilience to Natural Disasters 7-11. Also see Bosher and Dainty 2010 Disasters 1-18.
146 Bosher et al 2007 Build Res Info 165.
147 World Economic Forum Building Resilience to Natural Disasters 7-13; and Setola and Geretshuber "Emerging Information Infrastructures" 258-270.
148 World Economic Forum Building Resilience to Natural Disasters 9. Also see Seid-Aliyeva "Role of Mass Media" 81.
149 Bajracharya et al 2012 Aust J Emerg Manage 27. Resilience in a community is defined as the ability of a community or society exposed to hazards or disaster to resist, absorb, accommodate to and recover from the effects of a hazard or disaster in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions. UNISDR Terminology 24.
150 National Research Council of the National Academies Building Community Disaster Resilience 5.
151 Chen et al 2013 JCCM 133.
152 Quium A Guidebook on Public Private Partnership 1-4.
private company firstly as a true partner in its efforts to mitigate, respond to and recover from local disasters, and secondly as a source of strategies, resources and predetermined "plans of action" that are ready for implementation in times of disaster, the municipality itself can focus instead on implementing the said strategies and "plans of action" instead of attempting to develop them in the midst of a crisis.\textsuperscript{153} By entering into a PPP with the private sector a municipality can be assured of the fact that the private company (by virtue of the contractual PPP agreement) has accepted a level of accountability and responsibility (towards the municipality and community) to deliver a certain service in times of disaster.\textsuperscript{154} PPPs subsequently allow municipalities to broaden their approach to disaster management by providing them with access to more options to prepare for and respond to disasters.\textsuperscript{155}

\section*{4.2 PPPs in local disaster management}

\subsection*{4.2.1 Existing PPPs for disaster management}

As the number of partnerships between the public and private sector in the disaster management arena has increased, it has been found that these partnerships are highly beneficial, given that they contribute to the efficiency and effectiveness of disaster management and ensure multi-actor and integrated approaches to disaster management.\textsuperscript{156} In the international disaster management arena specifically, three categories of PPPs for disaster management can be distinguished: awareness and advocacy partnerships, disaster preparedness partnerships, and social investment partnerships.\textsuperscript{157} The functioning of these three categories can best be explained with reference to examples.\textsuperscript{158}

\begin{flushleft}
\textsuperscript{153} Busch and Givens 2013 \textit{Journal of Strategic Security} 5.
\textsuperscript{154} Busch and Givens 2013 \textit{JSS} 5; Chen \textit{et al} 2013 \textit{JCCM} 131-132.
\textsuperscript{155} Chen \textit{et al} 2013 \textit{JCCM} 131-133. Examples of such options include collaborating with chain-stores to set up collection sites in each store to solicit cash donations for disaster relief, for example. Smith and Sutter 2013 \textit{Independent Review} 170; Johnson, Connolly and Carter 2011 \textit{CSR & EM} 359-362.
\textsuperscript{156} Chowdhury "Bridging Public Private Partnership" 428.
\textsuperscript{157} UNISDR \textit{Private Sector Activities} 5.
\textsuperscript{158} For a discussion on additional examples of each PPP category, see Van der Berg \textit{Legal Perspectives} 67-74.
\end{flushleft}
4.2.1.1 PPPs for awareness and advocacy

Awareness and advocacy partnerships provide a platform for the use and sharing of the available knowledge that can assist in identifying risks, in order to reduce the impacts of future disasters and to foster resilience in communities. Such partnerships entail the private sector's partnering with the public sector and other relevant stakeholders, such as NGOs, for instance, to take a leadership role in advocating for and contributing to resolving different issues inherent in disaster management practice. For example, in Japan a leading energy company, the Tokyo Gas Group, partnered with various municipalities and other relevant stakeholders to improve the disaster management capabilities of the local authorities and surrounding communities. In terms of the partnership, Tokyo Gas raises awareness of disaster risks related to the use of gas, including awareness related to frequently occurring disasters in Japan. The company also holds annual disaster drills for its employees and for the employees of various local authorities. In addition, the company arranges disaster management "camps" which provide elementary school students from the third to sixth grade with an opportunity to experience a survival camp and to be exposed to the newest research findings in the field of disaster management. In each of these initiatives Tokyo Gas involves fire departments, disaster management volunteer groups and individuals from the local community to educate participating citizens in household preparedness, disaster risks and the measures necessary to reduce such risk. This partnership has proven to be beneficial for the entire community including the local authorities and has resulted in strengthened collaboration for disaster management amongst local authorities, members of communities and various companies.

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159 IFRC Guide for Public Awareness 12.
160 UNISDR Private Sector Activities 1.
161 Asian Disaster Risk Reduction Centre Total Disaster Risk Management 7.
162 Asian Disaster Risk Reduction Centre Total Disaster Risk Management 7.
164 UNISDR Private Sector Activities 26. Also see Asian Disaster Risk Reduction Centre Total Disaster Risk Management 8.
165 UNISDR Private Sector Activities 26. Also see Tokyo Gas Group Date Unknown http://bit.ly/1lwDNe.
166 Tokyo Gas Group 2007 http://bit.ly/1hJgFQM.
4.2.1.2 PPPs for disaster preparedness

PPPs established for the purposes of developing disaster preparedness aim to improve the "readiness" of local authorities and communities for the occurrence of disaster. Standard preparedness activities usually include the stockpiling of equipment and supplies, coordination and standby arrangements, information management, personnel training, and the development of contingency or disaster management plans. A partnership specifically established to assist local authorities to be prepared for disaster is the partnership between Deutsche Post DHL (DHL), the United Nations Development Programme (UNDP) and various local governments. The PPP entails DHL’s consulting with and training local authorities on preparing for the occurrence of disaster, and the UNDP coordinating with government authorities to organise the training. During these training sessions DHL supplies the necessary training materials and assistance in the development of disaster management plans. In addition, in the event of a disaster DHL provides local authorities with specially trained DHL employees to help manage crucial logistics operations in airports close to disaster-stricken areas. The training and assistance provided by DHL has enabled the participating local authorities to draft effective disaster management plans and the assistance provided by DHL’s employees has aided the authorities to improve the assistance they may offer to local airports in times of disaster.

4.2.1.3 PPPs for social investment

While local authorities are specifically included as partners in the two categories of PPPs already discussed, partnerships for social investment purposes do not necessarily include them. In terms of PPPs established for social investment purposes, the

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167 CSR Asia Business and Disaster Preparedness 6.
168 Lavell et al "Climate Change" 35.
168 This PPP agreement is established between DHL, the UNDP and various local authorities in Nepal, Bangladesh, Indonesia, Lebanon, Turkey and El Salvador.
171 APEC Public Private Partnerships 19.
174 These PPPs are usually established between national government and the private sector. In this regard see Bailey Humanitarian Crises 14-16.
private sector provides communities with financial support, volunteers or expertise and product donations in order *inter alia* to improve the living conditions of those in disaster-stricken areas or to repair critical infrastructure damaged by disaster.\(^\text{175}\) Such PPPs are often established by multi-national corporations as philanthropy or Corporate Social Responsibility (CSR) projects.\(^\text{176}\)

As part of their CSR responsibilities, Siemens partnered with the SkyJuice foundation to leverage their expertise and technical knowledge to assist local communities in the restoration of infrastructure damage to water systems in the aftermath of disaster.\(^\text{177}\) Siemens and the SkyJuice foundation worked together to develop "SkyHydrant", a potable water filtration system which makes use of membrane filtration systems which provide up to 10 000 litres of safe and pure drinking water (without the use of electricity) per day.\(^\text{178}\) While this particular partnership was not undertaken directly with local authorities as partners, the system does serve as a form of support in a time where local authorities' main focus is to repair the damaged infrastructure and to provide assistance to disaster victims.\(^\text{179}\)

In addition to the above international examples of PPPs for disaster management, it is likely that disaster situations will require the public and private sector to collaborate immediately in some situations.\(^\text{180}\) Immediate collaborations often follow local authorities' responses to a specific disaster, but may later lead to the formation of one or more formal PPPs.\(^\text{181}\) The assistance provided by Walmart, a large retail company in the United States of America, in the aftermath of Hurricane Katrina in August 2005, is an example of such a spontaneous "partnership".\(^\text{182}\) Walmart provided disaster victims with staples such as food, water, toilet paper and fuel during a time where the

\(^{175}\) UNISDR *Private Sector Activities* 39.

\(^{176}\) Bailey *Humanitarian Crises* 14-16.

\(^{177}\) UNISDR *Private Sector Activities* 42. Also see Pillay 2012 http://bit.ly/1gdrCXw.

\(^{178}\) UNISDR *Private Sector Activities* 43. Also see SkyJuice Foundation 2010 http://bit.ly/1cGrsHe. Hereafter Siemens/SkyJuice PPP.


\(^{180}\) Busch and Givens 2013 *JSS* 10. Also see Abou-bakr *Managing Disasters* 7-8.

\(^{181}\) Busch and Givens 2013 *JSS* 10. Also see Stewart, Kolluru and Smith 2009 *IJPDLM* 345-346.

government authorities were completely overwhelmed by the destruction caused by the hurricane.\textsuperscript{183}

Bearing in mind the outcomes of each of these partnerships in different parts of the world in a variety of different contexts and where the specifics varied hugely, it is submitted that the private sector could be an invaluable partner for disaster management in the South African context as well. The following section briefly reflects on some findings and/or guidelines for PPPs for LDM purposes in the South African context.

\textbf{4.3 Existing public-private partnerships for disaster management: some findings and guidelines}

Considering the design, function and outcomes of the international examples of PPPs for disaster management, it appears that it would be useful for South Africa to consider the following in relation to its own PPPs for LDM:

- PPPs for LDM can directly assist municipalities in fulfilling their LDM duties to the extent that the PPPs (such as the Tokyo Gas PPP, for example) educate communities about disasters and disaster risks, raise awareness on key disaster management issues, and put adequate measures in place in order that the municipality should be better prepared for disasters.\textsuperscript{184}

- PPPs for LDM can also indirectly assist municipalities in fulfilling their LDM duties to the extent that the PPPs allow municipalities to restore critical infrastructure damage while the private sector deals with subsidiary issues that may arise from a disaster. The Siemens/SkyJuice PPP, for example, allowed local authorities to concentrate on repairing damaged infrastructure and assisting disaster victims after the occurrence of disaster whilst Siemens and SkyJuice provided clean drinking water to disaster victims.\textsuperscript{185}

\textsuperscript{183} Abou-bakr \textit{Managing Disasters} 22-23.
\textsuperscript{184} See the Tokyo Gas PPP in section 4 paragraph 4.2.1.1 above.
\textsuperscript{185} See the Siemens/SkyJuice PPP in section 4 paragraph 4.2.1.3 above.
By entering into PPPs for LDM a broadened network for disaster management is established. The Tokyo Gas and DHL partnerships specifically included their own specially trained staff, volunteer groups, members of the community and various large corporations in their disaster management initiatives. Including these stakeholders provided a wide network within which disaster management activities could take place, instead of such activities being the effort of the local authorities and their PPP partners alone.

PPPs that contribute to the provision of new or innovative approaches to disaster management (such as the arrangement of educational disaster management camps as indicated in the Tokyo Gas PPP) may provide creative measures to fulfil disaster management duties. Such PPPs could prevent plans for disaster management from becoming stagnant or out-dated and ensure that new approaches to disaster management are continuously investigated.

PPPs which include concerned and interested partners may last longer than partnerships where the private companies must be persuaded to enter into PPPs for LDM. Both the Tokyo Gas and DHL partnerships were initiated by the private sector. The companies in these partnerships appeared to be genuinely concerned for the ability of the local authorities and communities to cope with the aftermath of disaster. The companies were thus willing to partner specifically for disaster management and many of these partnerships are still ongoing.

The establishment of PPPs for disaster preparedness depends on whether or not there are existing companies within a municipality's community with the necessary skills, connections, resources and willingness required to assist local government in being prepared for disasters.

The capacity of municipalities in South Africa to collaborate for disaster management purposes by means of PPP agreements may differ from the

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186 See section 4 paragraph 4.2.1.1 and 4.2.1.2 above.
187 See UNISDR Private Sector Activities 26; Tokyo Gas Group Date Unknown http://bit.ly/1IwtJNe.
188 See the Tokyo Gas PPP in section 4 paragraph 4.2.1.1 above.
189 Van der Berg Legal Perspectives 75.
191 Surjan and Shaw 2009 Disaster Prev Manag 430.
capacity of local authorities to do so in other countries. Municipalities in South Africa are under-resourced and subsequently struggle to fulfil the most basic disaster management responsibilities.\textsuperscript{192} Funding is generally limited to "start-up" costs for LDM initiatives and municipalities in South Africa may therefore also lack the funding required to establish and manage PPPs for LDM. It is generally accepted that local authorities in first-world countries, are better financially equipped to fulfil their disaster management mandate and to explore new means of fulfilling disaster management activities such as the establishment of PPPs, for example.\textsuperscript{193}

- The successful PPPs described above are context sensitive. It is likely that the nature of equivalent PPPs in South Africa may be different, given our unique disaster risk profile.\textsuperscript{194}

- The available literature on the examples of PPPs for disaster management in the international arena is silent on an array of issues pertaining to PPPs, such as the procedures followed for the establishment of each PPP; the contents of such PPP agreements in general; and guidelines or tips for other municipalities or institutions locally and or internationally on how to establish similar PPPs. Considering that the South African legal framework for disaster management is already silent on the use of PPPs for LDM\textsuperscript{195} it may be challenging for municipalities to establish and manage successful PPPs for LDM generally.

- The PPP exemplars also neglect to provide information regarding the costs for municipalities in establishing and managing PPPs for disaster management or the implications in circumstances where either party in the PPP takes a unilateral decision.\textsuperscript{196}

- The examples furthermore do not elucidate issues of liability on the part of the municipality or any other party, nor do they provide guidance on the enforceability of the PPP agreements generally.

\textsuperscript{192} See section 2 paragraph 2.2 and 2.1.1.1 above.
\textsuperscript{193} Ministry of Foreign Affairs \textit{Public-Private Partnerships in Developing Countries} 13-15.
\textsuperscript{194} For an overview of the disasters that occur in South Africa, see Botha and Van Niekerk 2013 \textit{Jamba} 2-3.
\textsuperscript{195} See section 2.2 above.
\textsuperscript{196} In examining the available literature on the Tokyo Gas, DHL and Siemens/Skyjuice PPPs, it was noted that none of the exemplars provided information on these matters.
Several scholars have indicated that meaningful partnerships between government and the private sector can take years to develop.\textsuperscript{197} South African municipalities may therefore not be able to expect immediate successes in entering into PPPs for LDM. However, considering that the Tokyo Gas, Siemens/SkyJuice and DHL partnerships have been running for a number of years with considerable successes, PPPs for LDM in South Africa may be worth contemplating as an option in assisting municipalities fulfil their LDM responsibilities.

Whilst this article maintains that PPPs for disaster management may prove to be rather beneficial to local authorities, these partnerships should not be entered into without consideration of the guidelines or findings outlined above and a clear understanding of the resources, skills, and capacities that are required to fulfil a PPP's objectives.\textsuperscript{198} It is imperative that each party to a PPP agreement strictly monitors and implements the PPP project in order to reap the optimum results of the efforts undertaken.\textsuperscript{199} Nevertheless, an examination of the nature of existing PPPs gives rise to more questions than answers, as the examples of international PPPs for LDM fail to provide crucial information relevant to establishing and managing PPP agreements, for example. This lack of information creates uncertainty regarding the sustainability of PPPs for disaster management. Furthermore, it may be argued that some of the guidelines or findings are illustrative of challenges in the use of PPPs for LDM.

5 Conclusion

As the incidence of the occurrence of disasters in South Africa and their intensity are expected to continue to increase, local government as the first in line of response will continue to play a critical role in community preparedness and planning. Considering that many municipalities in South Africa are under-resourced and lack the sufficient knowledge and expertise to successfully fulfil their disaster management mandate, the private sector with its considerable amount of resources and expertise is deemed to

\textsuperscript{197} Bailey \textit{Humanitarian Crises} 13.
\textsuperscript{198} See the PPPs in section 4 above and Medury "Building Disaster Resilient Communities" 441.
\textsuperscript{199} Chowdhury "Bridging Public Private Partnership" 405.
be a key role-player in assisting local government fulfil its disaster management mandate.

The international examples of PPPs as discussed in this article illustrate that PPPs for LDM are particularly beneficial to local authorities and members of the community. However, a number of guidelines and findings were highlighted, which guidelines and findings should be taken into account by municipalities in South Africa when they consider entering into their own PPPs for LDM. Despite these cautions, the main findings of this article are that: a) PPPs are important tools for the promotion of integrated disaster management as they facilitate community involvement and provide multi-stakeholder participation; b) PPPs for LDM can instil innovative thinking between partners on new measures to educate communities on disasters; c) PPPs for LDM may also assist local government in increasing community resilience to disaster, as such partnerships allow municipalities *inter alia* to prepare for potential disasters by improving their disaster management plans, to provide their staff and members of the community with disaster education and workshops, and to arrange standby personnel who are adequately trained to assist the municipality in responding to disasters; and d) PPPs for LDM positively influence a municipality’s ability to prepare for and respond to the occurrence of disaster. PPPs for LDM are therefore regarded as supplementary, legally binding tools used to assist local government in adequately fulfilling its disaster management mandate.

While this article recognises the benefits of PPPs for LDM and argues that PPPs are useful legal tools which play a supplementary role in assisting municipalities fulfil their disaster management mandate, PPPs should not be regarded as the panacea to all LDM ills. Municipalities may consider using PPPs to support and supplement their overall disaster management initiatives. The importance of sound municipal planning, budgeting and good local governance in disaster management should, however, never

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200 See the PPPs in section 4 above and Medury "Building Disaster Resilient Communities" 430.
201 See the Tokyo Gas PPP in section 4 paragraph 4.2.1.1 above and Medury "Building Disaster Resilient Communities" 429.
202 See the DHL PPP in section 4 paragraph 4.2.1.2 above and Davies and Murshed *Critical Guidelines* 23.
203 See the PPPs in section 4 above and Stewart, Kolluru and Smith 2009 *IJPDLM* 352353.
be downplayed, while significant experimentation and research remain to be performed in this field. In the establishment of their own PPPs for LDM, municipalities in South Africa should familiarise themselves with the case studies of existing PPPs for disaster management elsewhere in the world and should draw from the guidelines and findings of those studies. For the moment all municipalities, entities in the private sector, and local communities are encouraged to unlock the capacity inherent in the use of the instruments provided for in law, such as PPPs, to facilitate disaster management, to increase resilience against disasters, and to minimise the risk to property, the environment, the infrastructure, health, and human life.
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LIST OF ABBREVIATIONS

APEC Asia-Pacific Economic Cooperation
ASB Accounting Standards Board
Build Res Inf Building Research and Information
COGTA Department of Cooperative Governance and Traditional Affairs
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>CRED</td>
<td>Centre for Research on the Epidemiology of Disasters</td>
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<td>CSR</td>
<td>Corporate Social Responsibility</td>
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<td>CSR &amp; EM</td>
<td>Corporate Social Responsibility and Environmental Management</td>
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<td>Disaster Prevention and Management</td>
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<td>DMA</td>
<td>Disaster Management Act 57 of 2002</td>
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<td>ICDM</td>
<td>Intergovernmental Committee on Disaster Management</td>
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<tr>
<td>ICT</td>
<td>Information communication technology</td>
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<td>IDP</td>
<td>Integrated Development Plan</td>
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