



**Optimisation of  
decentralisation for  
effective DRR**

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# Optimisation of decentralisation for effective Disaster Risk Reduction (DRR) through the case study of Indonesia

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## Abstract

This paper investigates how to optimise decentralisation for effective disaster risk reduction (DRR) in developing states. There is currently limited literature on empirical analysis of decentralisation for DRR. This paper evaluates decentralised governance for DRR in the case study of Indonesia and provides recommendations for its optimisation. Wider implications are drawn to optimise decentralisation for DRR in developing states more generally. A framework to evaluate the institutional and policy setting was developed which necessitated the use of a gap analysis, desk study and field investigation. Key challenges to decentralised DRR include capacity gaps at lower levels, low compliance with legislation, disconnected policies, issues in communication and coordination and inadequate resourcing. DRR authorities should lead coordination and advocacy on DRR. Sustainable multistakeholder platforms and civil society organisations should fill the capacity gap at lower levels. Dedicated and regulated resources for DRR should be compulsory.

## 1 Introduction

Disaster risk reduction (DRR) focuses on long-term risk reduction by addressing the causal factors of risk in terms of exposure to natural hazards and vulnerability of communities (UNISDR, 2007). DRR activities reduce the likelihood of a disaster occurring or strengthen community resilience to respond and cope with disasters (AusAID, 2015). Community resilience is the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions (UNISDR, 2009).

DRR can be divided into stages of disaster risk prevention, mitigation and preparedness (Rottach, 2010). These stages take place prior to the disaster event; however DRR must also be addressed in the other stages of the disaster management

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cycle, for example in emergency response, rehabilitation and reconstruction to optimise its effectiveness.

DRR is particularly important in developing countries such as Indonesia. Economic losses in terms of percentage of gross domestic product (GDP) are twenty times greater in developing states compared with developed nations. 95% of all disaster related deaths occur in developing countries (IPCC, 2012).

Indonesia has the second highest level of disaster risk globally on the Natural Disaster Risk Index (McKeon, 2010). The country is prone to a multitude of hazards including earthquakes, tsunamis, volcanic eruptions, floods, droughts and forest fires due to its sensitive geographic and geological characteristics. Indonesia has very high levels of exposure to disaster risk with some 40% of its population (95.2 million people) exposed. Significant population pressures, widespread poverty and highly sensitive ecosystems further contribute to a high vulnerability to natural hazards. Consequently, DRR is vital to reducing the probability and intensity of hazards, thus enhancing communities' resilience to disasters.

Having in place a robust policy and institutional framework is considered imperative for the realisation of effective DRR. The institutional framework provides the mechanism to conduct DRR, which in this study, refers to the responsibility and authority of agencies to implement DRR and the capacity of these institutions to coordinate with other institutions to conduct these activities, at the required levels.

International policy is widely supporting of decentralisation for good governance, including that of disaster risk. The central role of local government in DRR is recognised in the Incheon Declaration (UNISDR, 2009), and the Hyogo Framework for Action (HFA) 2005–2015 strongly calls for decentralisation to facilitate community-level DRR (UNISDR, 2011b). The Sendai Framework for Disaster Risk Reduction (SFDRR) 2015–2030, states the need for focused action within and across sectors by states at local, national, regional and international levels (SFDRR, 2015). Decentralisation devolves greater power to the lower levels of government aiming to enhance government accountability, engagement of decision makers and citizen involvement, increase

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political competition and reduce abuses of power (UNISDR, 2011a; Faguet, 2011). Having in place governance structures at lower levels is essential for risk management, since local government is the first responder during disasters. Governance of DRR must be at the lowest level appropriate for the risk addressed, e.g. river flood risk management should be governed on a basin scale. Lower levels must be coordinated and facilitated by DRR governance at higher levels.

As noted by Faguet (2011), decentralisation is being implemented worldwide, in developed, transitional and developing countries. However, the literature does express concern for decentralisation as a form of government. Treisman (2010) notes that decentralised government may lead to reduced efficiencies, poorer policy quality and reduced economies of scale in the provision of public sector goods and services. Results from the ground on decentralisation have been mixed, particularly in transitional and developing states. In Argentina, the decentralised government structure has facilitated subnational actors abusing the system for their own personal gains, weakening political competition and the rule of law (Ardanaz et al., 2014).

There is limited literature concerning decentralisation of disaster risk. Research does concur with the HFA 2005–2015 that theoretically, decentralisation is needed for good governance of DRR (Scott and Tarazona, 2011; Bollin, 2003) though there are limited case study investigations to support this. Scott and Tarazona (2011) found that limited local level capacities can be a constraint to decentralised governance for DRR. Furthermore, they found that decentralization does not necessarily lead to enhanced participation due to low levels of awareness for DRR and other more pressing priorities.

In Bangladesh, decentralisation of disaster risk management (DRM) agencies has been found to increase local ownership for DRR in communities and the accountability of authorities (UNISDR, 2010). Decentralising DRR offices in the Philippines enhanced mainstreaming of DRR into provincial plans and programs, though significant challenges remain in the governance of DRR (UNISDR, 2010).

With the above mixed results in mind, this paper aims to address what the key issues are concerning implementation of DRR in the developing and transitional state context.

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this. Key tools for augmenting disaster risk awareness including education, multi-stakeholder platforms (MSPs), risk assessment, risk mapping and mechanisms for knowledge sharing and innovation were analysed.

- *Disaster Risk Avoidance*: aims to avoid disaster risk or limit damage and ease recovery by considering structural and non-structural measures and instruments. These are essential in terms of risk prevention, mitigation and preparedness, and address issues such as spatial planning, building codes and disaster preparedness infrastructure.
- *Disaster Risk Alleviation*: concerns physical, procedural and non-structural measures to reduce disaster risk through preparedness and early warning. Mainstreaming DRR into development planning as well as building institutional and individual capacity are fundamental to disaster risk alleviation.
- *DRR Governance, Policy Instruments and Financing*: an integrating component was considered necessary to address the issues of DRR governance, policy and financing, all of which are pertinent to each of the 3As (disaster risk awareness, avoidance and alleviation). Key issues such as intergovernmental coordination and the DRR specific policy environment were analysed.

In this study, it was found that some parameters were highly impacted by decentralisation, while others were impacted to a lesser extent. A summary of elements investigated, within the context of the 3A's and GPF framework, is provided in Table 1. The issues which have a high level of impact by decentralisation will be the focus of Sect. 4. This categorisation was deduced from the analysis of decentralisation of DRR in Indonesia through the 3A's and GPF framework using the research methods described in the following paragraphs.

The 3As and GPF framework necessitated the use of certain research instruments to conduct the analysis of decentralisation in the context of DRR in Indonesia. These instruments are:

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- Desk study/mapping
- Questionnaires/interviews
- Gap analysis

Secondary data in the form of international, government and academic publications were used in conducting the desk study. This study facilitated a mapping of the government and DRR institutions in Indonesia and a mapping of the policy and legislative environment. These mapping activities were fundamental to understanding the mechanics of governance in the state and the role and scope of decentralisation.

A field investigation was undertaken to Indonesia to better understand the DRR framework and the impacts and opportunities for decentralisation in the DRR context. Questionnaires, designed to serve as a precursor to the interviews rather than to facilitate an in-depth statistical analysis, were administered to selected interviewees prior to the on-site interviews. Analysis of the results of the questionnaires gave the researcher an impression of the interviewees' perceptions of the DRR framework in Indonesia, prior to conducting the interviews.

Twenty eight people were interviewed following consultation with practitioners on the ground and those identified as key actors in DRR in Indonesia through desk research. The interviews were carried out primarily in Indonesia from June to August 2013. The interviewees were from a variety of international organisations, Civil Society Organizations (CSOs), Non-Governmental Organizations (NGOs), Aid Agencies, governmental agencies and ministries, and universities and research institutions. Details of the organisations interviewed are provided in Appendix A. Semi-structured interviews were conducted given the diverse areas of expertise of the interviewees and to facilitate interviewee input of their own opinions and recommendations.

A gap analysis, as defined by Moritz Gomm (2009), is “the space between where we are and where we want to be, and serves as a means to bridge that space.” A gap analysis was employed to determine the current status of DRR governance in Indonesia, to determine a baseline for the ideal state of the DRR institutional and policy

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framework and to identify gaps between the current and ideal state. Recommendations were then made to bridge these identified gaps.

### 3 Description and mapping of institutional and policy framework

#### 3.1 Indonesian DRR institutional structure

The DRR institutional framework in Indonesia can be considered through three organisational groupings: (1) dedicated DRR institutions, (2) government ministries and agencies, (3) non-ministerial institutions. The dedicated DRR institutions are those agencies and platforms whose primary focus is DRM or DRR, and are taken to be those shown in Table 1 below. It must be noted that the formal organisations (BNPB and BPBDs) have significantly more influence on DRR planning, implementation and evaluation than the informal DRR platforms.

The DRM agencies (BNPB and BPBDs) operate in a devolved state where by they function independently at the different administrative levels. BNPB is the national level DRM agency. It is a non-departmental government agency and is equal in level with the line ministries. BNPB coordinates the different line ministries and sectoral agencies in their DRR activities and also implements programs in DRR itself. The agency coordinates and leads the emergency response during and post disasters. BNPB provides direction and guidelines on all elements of DRR, reporting to the President once per month under normal conditions. It receives its funding from the national annual government budget (APBN) (Indonesia. National Disaster Management Agency Regulation, 2008). The steering committee is appointed by the House of Representatives and consists of officials from eight lines ministries, the police and the armed forces (TNI), in addition to professionals in DRM (Indonesia. National Disaster Management Agency Regulation, 2008).

BPBDs are the main agencies for implementing DRM at the provincial and district levels. The BPBDs are independent organisations of BNPB and are, in theory, funded

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by the provincial or district level annual budgets, though many are actually reliant on allocations from central government (Rumainur, Provincial BPBD West Sumatra, personal communication, 28 June 2013). They coordinate DRR activities of other government agencies and implement DRR programs in their territories. They also provide guidance and direction to local government and BNPB on DRR issues.

As per the legend of Fig. 2, the platforms are informal organisations, often established as pilot projects by INGOs and other international organisations. PLANAS PRB is the national platform for DRR in Indonesia. It is a multi-sectoral platform with stakeholders representing the government, civil society, academia, the media, the private sector and the international community. PLANAS PRB advocates on DRR by providing a mechanism for stakeholders to lobby DRR issues at different levels through a single entity.

Regional platforms have been established in disaster prone areas of the state, namely Aceh, Padang and Yogyakarta (Djalante, 2012). Thematic platforms address particular issues, such as the Consortium for Disaster Education (CDE) on DRR education, as well as particular hazards such as Merapi Volcano. Many regional and thematic MSPs were founded following disasters e.g. following the Yogyakarta earthquake and Merapi volcanic eruptions (Djalante, 2012). As with the national platform, regional and thematic platforms aim to provide advocacy, offer consultancy and influence planning on DRR related to that particular region or risk.

The cross cutting nature of DRR requires the active involvement of all line ministries. The activities of key ministries in DRR are described below. The Coordinating Ministry of People's Welfare coordinates BNPB and represents the Government of Indonesia (GoI) on DRR issues in the international community. The Ministry of Home Affairs has developed disaster risk maps at provincial and district level and was a partner in the UNDP-led Safer Communities through DRR in Development project (Armia Muhammad Syathi Centre for Disaster Resilience, 2013). The Ministry for Health has been building community resilience through programs such as Prepared Villages, Rice for the Poor and Social Security for Neglected Senior Citizens (BNPB,

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2011). The Ministry for Education and Culture is implementing disaster awareness education through its National Strategy on Mainstreaming DRR into the School Education System (BNPB. National Disaster Management Plan 2010–2014). Many non-ministerial institutions also have central roles in DRR in Indonesia. These include the National Development Planning Agency (BAPPENAS), the Agency for Meteorology, Climate and Geophysics (BMKG), the Indonesian National Police (INP) and TNI.

### 3.2 Indonesian DRR legislative and policy environment

The Disaster Management Law of 2007 is the foundation of the current DRR policy framework in Indonesia. It was the result of a movement to improve DRM in Indonesia with external assistance from UNDP, UN OCHA and others (UNDP, 2009a). The Indonesian Society for Disaster Management (MPBI) led the lobbying and advocacy to pass the bill. The law directs a paradigm shift from emergency response to DRR, recognising people’s basic right to protection and placing the government responsible in this regard (BNPB. National Disaster Management Plan 2010–2014). Several ancillary pieces of legislation were subsequently passed, providing for areas such as the involvement of the international community in disaster response.

The National Plan for Disaster Management (NP DM) 2010–2014 is the current strategic plan for DRR, serving as a guidance document for DRR in the areas of policy, priority setting and mainstreaming (COE-DMHA, 2011). Line ministries and agencies are required to adhere to the National Plan for Disaster Management 2010–2014 in developing their Strategic Plans and through annual implementation of their Ministry’s/Agency’s Work Plan. National Action Plan for DRR (NAP-DRR) 2010–2012 is the operational plan for DRR and details the action plans and programs of all stakeholders, including government, NGOs, the international community and the private sector, in DRR at the national level.

The environment and disaster management together make up one of the eleven national priorities of the National Medium-Term Plan (RPJMN) 2010–2014. This

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plan sets the foundation of the Strategic Plans (RENSTRA) by line ministries and government agencies.

### 3.3 Decentralisation in Indonesia

Indonesian government is organised into six levels of administration as shown in Fig. 3. The decentralised system of government is still taking root in Indonesia. The former 280 district government administrations had increased to 500 by mid-2010 (Lassa, 2010). Given that it takes from three to ten years to complete the transition to decentralised government (Lassa, 2010), there are many district level governments which have not yet developed full capacity to conduct their duties.

Decentralisation has limited the influence of central government. Line ministries now function more in terms of facilitators and must negotiate with local governments on the structure and implementation of new programs (Datta et al., 2011). Under the decentralisation laws of 1999, the national government has only six exclusive areas of responsibility; foreign affairs, defence, (internal) security, justice, monetary and fiscal affairs, and religious affairs (UNDP, 2009b).

Decentralisation in Indonesia has left the provincial level with limited power. The lack of administrative influence and financial control on the lower levels of governments means that the provincial government lacks the authority needed to realise its mandate of monitoring and evaluation (UNDP, 2009b). This coordinating tier is essential given the number and geographic distribution of districts in Indonesia. The “missing links” of provincial government mean that policy cannot be filtered from national level through the provincial level to local government and vice versa.

The district levels of government have now significant levels of power (UNDP, 2009b). The focus of decentralisation has been on district level over provincial level due to concerns of national disintegration, e.g. separation of provinces such as Aceh (UNDP, 2009b). Fiscal autonomy of new cities/districts is a significant obstacle to decentralisation. It has been noted that less than 5% of these governments can fund their annual budgets and they have to rely upon central government for support (Lassa,

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2010). This dependence means the district level has regard for national government; however there is limited regard for provincial government (UNDP, 2009b).

A lack of village autonomy has restrained DRR implementation at village level (Lingkar Association, 2012). Conflict with district regulations has prevented the implementation of some village level DRR initiatives.

## 4 Results of applying 3As and GPF framework

As outlined in Sect. 2, the 3As and GPF framework was applied to evaluate decentralisation for DRR in the case study of Indonesia. The results of this analysis are presented through the components of the framework below.

### 4.1 Disaster risk awareness

Raising awareness for disaster risk in both the government at the different levels and the general population is a vital first step in building a culture of resilience. This study found that key tools of disaster risk awareness, including education, multi-stakeholder platforms (MSPs), risk assessments and risk mapping were highly impacted by the decentralisation of governance. These are investigated below.

Education is a key tool in building awareness for the importance of DRR. Decentralisation in Indonesia means that national level authorities do not have control over school curricula development. Local levels do not have to adhere to national level policies (A. Wijayanti, ASEAN Coordinating Centre for Humanitarian Assistance, personal communication, 25 June 2013). Capacity for the development of curricula has not been decentralised to the lower levels. DRR is integrated into school curricula in Aceh, Padang and Yogyakarta as a result of a bottom-up movement in these provinces and not due to higher level policies.

The importance of MSPs in contributing to DRR through networking, advocacy, planning and ensuring accountability is well recognised. Though MSPs have been

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implementation of spatial planning (P. Surono, Centre for Volcanology and Geological Hazard Mitigation, personal communication, 10 June 2013). Though enacted at national level in 2007, less than 20% of provinces and only 2% of governments at district level had passed the legislation at their respective levels by 2010 (Lassa, 2010).

5 At provincial and sub-provincial level, hazard maps are not being used optimally in spatial planning (P. Surono, Centre for Volcanology and Geological Hazard Mitigation, personal communication, 10 June 2013).

Adherence to the 2010 building codes has been very low. A key factor in this is that a very limited number of governments have endorsed the 2010 building codes. 10 The 2002 law set the district level responsible for settlements. With over 450 cities and districts in Indonesia, achieving nationwide enactment is a significant challenge. Analysis of the *M7.0* September 2009 earthquake by the International Platform for Reducing Earthquake Disasters (IPRED, 2009) found that had buildings followed the 2002 building codes, the resulting damage would have been less intense.

15 Tools of disaster risk avoidance such as retrofitting and reconstruction are impacted by decentralisation. Though regulations are in place to govern these parameters, differential levels of compliance across Indonesia result in higher levels of disaster risk in some areas than others. Levels of compliance are directly related to factors such as recent experience and frequency of disasters and levels of awareness in government and the public. 20 Improved reconstruction following earthquakes in Yogyakarta 2006 and West Sumatra 2009 has reduced disaster risk in these areas. The presence of influential, high capacity institutions in these areas, such as UGM in Yogyakarta, was essential to providing practical solutions to facilitating compliance.

25 There is substantial variation in the quality and extent of disaster management infrastructure, such as evacuation routes and signage, in different areas in Indonesia. Capacity and awareness has been built up in areas which have experienced recent major or recurring significant disasters, e.g. Mount Merapi in Yogyakarta. In other areas, lower capacity coupled with DRR being a lower political and public priority

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efficiency and the rule of law” which form the foundation of risk governance (UNISDR, 2011a). This remains a major issue with high levels of corruption in the state. Using the World Bank Worldwide Governance Indicators (WGI) as a criterion, corruption in Indonesia has not reduced despite the implementation of decentralisation (Kaufmann et al., 2013). Corruption is particularly prevalent in public procurement, as was reported in the post-2004 tsunami reconstruction in Aceh (Williams, 2011). It has also been an issue in relocation (E. M. Siska, UNESCO Jakarta, personal communication, 5 July 2013).

Disconnections in DRR policies at the different levels of administration are also proving a challenge in realising DRR. The recommended approach of a strategic and operation plan that has been adopted at national level has not been fully realised at provincial level with many provinces lacking either the strategic or operational plan.

Policy at provincial level is very much top-down in nature with limited input from the districts. This stems from the often poor relations between provincial and district levels and a lack of mechanisms to collect and incorporate their input into legislation development. Issues have also arisen in the development of legislation. In West Sumatra, a consultant was hired by BNPB to develop the three year action plan on DRR. There was very limited consultation with the provincial DRR forum and planning for the development of the document was also weak (L. Verayanti, FIELD Indonesia Foundation West Sumatra, personal communication, 28 June 2013). The plan has had very minimal impact on DRR in the province (L. Verayanti, FIELD Indonesia Foundation West Sumatra, personal communication, 28 June 2013).

Though substantial power now lies at district level, there is limited DRR policy in place to mobilise this influence. It is not known exactly which districts have and have not ratified the law, though some provinces such as West Sumatra are planning to address this (Rumainur, Provincial BPBD West Sumatra, personal communication, 28 June 2013). As at other levels, consultation with communities, NGOs and CSOs has not been adequate and thus ownership of the DRR legislation is limited (L. Verayanti, FIELD Indonesia Foundation West Sumatra, personal communication, 28 June 2013).

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Though funding for DRR has increased at national level, funding is insufficient at provincial and district levels. Darwanto (2012) found that only three of eleven provinces surveyed had spending on DRR conforming to the international standard of 1–2% of total local government expenditure. In West Sumatra, L. Verayanti (FIELD Indonesia Foundation West Sumatra, personal communication, 28 June 2013) estimated that only 10% of the BPBD's budget is allocated to DRR; the majority going to emergency response, reconstruction and rehabilitation. BPBDs lack institutional credibility with larger, pre-existing government ministries at provincial and district levels. Consequently, members of parliament are much more likely to financially support these departments over the BPBDs. In West Sumatra, a province considered to be relatively strong in DRR, only half the budget requested from provincial government is granted (Rumainur, Provincial BPBD West Sumatra, Provincial BPBD West Sumatra, personal communication, 28 June 2013). There has been limited knowledge transfer in financial planning from national levels to those below. Funds are often given without sufficient planning and BPBDs lack capacity to effectively manage funding they receive (Rumainur, Provincial BPBD West Sumatra, personal communication, 28 June 2013; D. Samsurizal, BPBD Special Province of Yogyakarta, personal communication, 13 June 2013).

Inadequate regulations are proving an obstacle to decentralised financing of DRR. B. Erwanto (District BPBD Padang City, West Sumatra, personal communication, 27 June 2013) of BPBD Padang City noted that currently allocation of budget from district government is not needs based but instead there is equal allocation to each government institution. Consequently, as noted in Sect. 3.1, many BPBDs are not resourced by their local government but instead are fiscally dependant on BNPB. Considering the budget of BPBD Padang City, IDR4 billion (3% of total) is from district APBD budget, IDR666 million (0.5%) is from provincial government and the vast majority IDR130 billion (96.5%) is from BNPB for tsunami preparedness programs (B. Erwanto, District BPBD Padang City, West Sumatra, personal communication, 27 June 2013).

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BNPB funds are often in the form of open ended, on-call budgets intended for emergency response and rehabilitation and thus are a limited source of finance for DRR. There are no guidelines on reporting by BPBDs on funds allocated from BNPB (I. Rafliana, Indonesian Institute of Sciences (LIPI), personal communication, 13 June 2013). Provincial and district government departments are open to being coordinated by BPBD in emergency response as the on-call budgets allow BPBD to pay these agencies. However, BPBD do not have such resources for DRR and consequently departments are reluctant to be involved in DRR.

Tracking of government spending is important in all forms of government, but particularly so in decentralised structures where extra tiers of administration provide the opportunity for funds to be reallocated or even disappear. The lack of a budget tracking code in Indonesia prevents accurate analysis of spending on DRR and is a major limitation of the current system.

### 5 Discussion of the gaps in decentralisation of DRR

This paper considers optimisation of decentralisation for effective DRR in the context of developing states. Decentralisation is recognised by the HFA 2005–2015, among others, as essential for good governance of DRR. Decentralisation focuses on devolving power to the lower levels with the aim of enhancing government accountability, effectiveness and efficiency, and leading to greater involvement of citizens in decision making.

Decentralisation for DRR is investigated through the case study of Indonesia in consideration of broader application in developing states. The primary gaps in the Indonesian case study of decentralised governance for DRR and recommended actions to close these gaps are presented in Table 2. The importance of decentralisation for DRR in states with such levels of cultural and ethnic diversity, underpinned by a great distribution of hazards and socioeconomic characteristics, is irrefutable. High levels of poverty and population expansion, combined with the

implications of climate change and rapid urbanisation, place great challenges on the management of disaster risk in developing states. Optimisation of governance for disaster risk must then be of high priority.

Planning of decentralisation must be developed in recognition of the unique socio-economic context of the state at hand. The principle of subsidiarity, whereby authority is decentralised to the lowest level that can perform the duties satisfactorily is critical for optimal decentralisation (UNDP, 2004). Accordingly, optimal decentralisation does not involve decentralisation of authority for all areas to the lowest levels, but rather devolution to the lowest appropriate level. For example, in developing states of the scale of Indonesia, it is recommended that that authority for education lie at provincial rather than district levels. Furthermore, Treisman (2002) noted that the greater the number of tiers of government, the higher the probability that the decentralised entities will perform less well. This must be considered in government planning.

The decentralisation of health services in Pakistan provides insights that can be applied to the decentralisation of DRR. Research based on feedback from healthcare units in 17 districts revealed that there were varying levels of decentralised authority and institutional capacity across respondents. The district level officials that engaged greatest with their decentralised authority had stronger decision making capacities and were held more accountable to local representatives. As noted in the Indonesian case study, the role of leadership at the given level is critical to realising effective decentralised governance.

A major challenge to decentralisation of DRR in developing states is the capacity gap that exists at lower levels of government. Awareness for DRR is often limited at local levels due to a prevailing focus on emergency response. This amplifies difficulties in mainstreaming DRR as many lower level government ministries believe DRR is not their responsibility. Local levels often do not have the capacity required to recognise their own needs and are thus ill-equipped to seek the appropriate support from higher authorities.

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Disconnected policies at the different administrative levels present a significant problem in decentralised government. Lower levels should adopt policy consistent with that enacted at central government. Provincial levels have an important role in assisting constituent district levels to develop policy that is tailored to their unique conditions whilst consistent with higher levels. Compliance with legislation is a major issue in developing states. Though legislation may be in place, strong enforcement and high levels of political commitment are required for legislation to be realised in practice.

Riker (1964) observed that a balance between centripetal forces (the centre capturing the powers of the lower jurisdictions) and fissionary forces (common pool problems at the lower levels) is required for effective decentralised governance. Argentina's decentralised framework has not achieved this balance with powerful subnational levels succeeding in drawing large bailouts from national levels due to the high levels of influence they exert on national government (Faguet, 2011). A level of supervision from higher levels is required to ensure consistency and realise best practice, however excessive control negates any benefits and results in an unnecessary added layer of administration.

In the DRR context of this study, a framework whereby the district level has greater authority than the province, as currently exists in Indonesia, is not favourable. The reliance of the BPBDs on national level presents the risk of limiting accountability to the local electorate. If these organisations are not accountable to local representatives, the key objectives of decentralisation will not be met.

Difficulties in communication and coordination are widely acknowledged as issues in decentralisation and particularly so in developing states. The DRM agencies have a critical role to play in terms of decentralisation of DRR. These agencies should focus on coordination and advocacy for DRR at all levels of government. Implementation on DRR should be left to the district levels. Strong capacity in advocacy, management, organisation and planning in DRM agencies is needed to coordinate activities of other departments and to encourage mainstreaming of DRR.

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Resourcing for DRR is a major challenge in developing states as DRR must compete with other priorities whose benefits are realised immediately. As noted by Litvack (1998), local financial autonomy is essential for successful decentralisation. At local levels, unless there is regulated setting aside of resources, they are often diverted to higher priority political issues. DRM agencies at local levels are often recently established and thus lack the institutional credibility of longer existing, better funded agencies. Consequently, local governments are often reluctant to fund them.

As outlined in Sect. 4, fiscal sustainability is a major challenge for effective decentralisation with regional and district level organisations largely reliant on national level funding. This phenomenon of significant vertical transfers has been observed in several Latin American states and prompted the second generation of decentralisation reforms aimed at realising fiscal sustainability (Faguet, 2011). The improved management of subnational finances led to a more stable national level fiscal environment in Argentina, Brazil and Mexico (Faguet, 2011). Having in place such conditions would greatly enhance the effectiveness of a decentralisation campaign.

Regulations to secure risk based financing are required to adequately fund DRR at local levels. Reporting mechanisms and budget tracking are required to facilitate traceability and ensure transparency. Such rules of implementation are crucial to ensuring the planned outcomes are realised in practice.

Decentralisation is not in itself sufficient to create a participatory governance of DRR. This stems from a lack of awareness for DRR at local levels, a focus on more pressing priorities and lack of openness of government to engage in multistakeholder participation. Collaboration with NGOs and CSOs in policy development in districts, as at higher levels, is often insufficient as seen in this case study of Indonesia. Exploiting the existing social capital at lower levels is key to effective decentralised governance. The “usos y costumbres” (English: customs and traditions) form of local self-government in indigenous communities in Mexico is a good illustration of strong public participation in local government and accountability to the local electorate (Diaz-Cayeros et al., 2014). Once integrated with partisan politics at higher levels, this form of

governance offers strong opportunities for effective decentralisation for DRR and other sectors.

Multistakeholder partnerships offer unique opportunities in this regard and should be financially supported by governments. However in many developing states, such partnerships are in their infancy. Governments are often reluctant to contribute to these partnerships and thus their potential as a forum for participation is not realised.

## 6 Conclusions

Decentralisation is a now commonly practiced form of governance. As seen in the case study of Indonesia and in the references to decentralisation in other developing/transitioning states, decentralisation is a complex process that requires pre-existing conditions to be in place before it can be successfully implemented. These include local level financial autonomy, capacity building at lower levels, a strong intergovernmental framework and clear rules of implementation. In this respect, *how* decentralisation is implemented is a more pressing question than *whether* decentralisation should be implemented.

Decentralisation is particularly important in developing states of the scale and cultural diversity of the case study of Indonesia detailed in this research. However, several key elements prevent the potential of decentralised government for DRR from being realised.

Decentralised government requires careful planning. This must be underpinned by the principle of subsidiarity whereby authority is devolved to the lowest level appropriate. Capacity gaps at lower levels are major obstacles to decentralisation for DRR in developing states. Capacity is often not devolved with authority. Low levels of awareness for DRR at local levels and a lack of realisation of their own needs are major issues. Training of government officials and the meeting of a minimum competency code for new staff are required to build local authority capacity in DRR.

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Local governments must be empowered to take on the responsibility for DRR for their territories as opposed to relying on external assistance.

Low compliance with policy is another significant issue in developing states. Key DRR legislation, such as that pertaining to spatial planning and building codes, requires high levels of political commitment and active enforcement. Given the cross sectoral nature of DRR, line ministries must contribute to policy development in the area. This is essential to ensuring cross party ownership in DRR policies and consequently their realisation in practice.

Policies in decentralised states at the different levels are often disconnected and thus become weak and fragmented. Strong communications and coordination are vital for decentralised governance though these are often lacking. The DRM agencies have a crucial role in leading advocacy for DRR and coordinating the activities of stakeholders, both horizontally and vertically, across the different administrative levels of decentralised governance.

Securing financing for DRR is a major challenge in developing states. Regulated risk-based allocation of resources is needed at all levels in decentralised government to ensure the financing required is available and informed planning can be made.

## Appendix: List of organisations interviewed

- ASEAN (Association of Southeast Asian Nations)
- AusAID (Australian Agency for International Development)
- BPBD DKI Jakarta (Jakarta Provincial Disaster Management Agency)
- BPBD Padang City (Padang City District Disaster Management Agency)
- BPBD West Sumatra (West Sumatra Provincial Disaster Management Agency)
- BPBD Yogyakarta (Yogyakarta Provincial Disaster Management Agency)

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- BMKG (Indonesian Agency for Meteorology, Climatology and Geophysics)
- BNPB (Indonesian National Disaster Management Agency)
- CVGHM (Centre for Volcanology and Geological Hazard Mitigation)
- DRR Forum West Sumatra
- 5 – HFI (Humanitarian Forum Indonesia)
- KOGAMI (Tsunami Alert Community West Sumatra)
- LIPI (Indonesian Institute of Sciences)
- Ministry of Public Works, Ministry for the Development of Disadvantaged Regions
- MPBI (Indonesian Society for Disaster Management)
- 10 – PLANAS PRB (Indonesian National Platform for DRR)
- UGM (Gadjah Mada University, Yogyakarta)
- UNDP (United Nations Development Programme)
- UNESCO (United Nations Educational, Scientific and Cultural Organization)
- UNICEF (United Nations Children’s Fund)
- 15 – World Bank

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**Table 1.** Level of impact of decentralisation on DRR parameters (author).

Level of Impact of Decentralisation	Awareness	Avoidance	Alleviation	DRR Governance, Policy Instruments and Financing
High	<ul style="list-style-type: none"> <li>– Education</li> <li>– MSPs</li> <li>– Risk assessment and mapping</li> </ul>	<ul style="list-style-type: none"> <li>– Spatial planning</li> <li>– Building codes</li> <li>– Retrofitting</li> <li>– Reconstruction</li> <li>– Disaster management infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>– Development planning</li> <li>– Institutional capacity</li> <li>– Early warning systems</li> <li>– Standard operating procedures</li> </ul>	<ul style="list-style-type: none"> <li>– Politicization of DRR</li> <li>– DRR specific legislative and policy environment</li> <li>– Financing of DRR</li> </ul>
Limited	<ul style="list-style-type: none"> <li>– Religious and cultural beliefs</li> <li>– Indigenous knowledge</li> <li>– Media</li> <li>– Knowledge generation and sharing</li> </ul>	<ul style="list-style-type: none"> <li>– Inspection of construction</li> <li>– Construction personnel and training</li> <li>– Relocation</li> <li>– Environmental systems</li> </ul>		

**Table 2.** Primary gaps identified in the decentralisation framework for DRR in Indonesia (author).

Gaps Identified	Actions to Close Gaps
Capacity for the development of school curricula has not been decentralised to the lower levels.	Capacity building should accompany decentralisation of authority. Education should be under the authority of provincial and not district levels of government.
Low coordination between MSPs at different administrative levels.	Government should financially support MSPs to strengthen their contribution and enhance inter-level coordination.
Poor quality risk assessments produced. Inadequate capacity building of authorities in this area.	A review process of all risk assessments and mapping should be carried out and from this a plan for their future improvement/development be made. Risk assessments should be undertaken by the relevant local authority. Guidelines produced by BNPB on conducting risk assessments should be effectively disseminated and socialised.
Low enactment of the 2007 Spatial Planning Law and the 2010 building codes.	Dates must be set by which local governments should adopt laws originating from higher levels.
Low capacity for DRR in DRM agencies, particularly at local levels.	There should be a major increase in quality and number of staff in DRR in BNPB and BPBDs. Incentives should be developed to attract and retain competent and dedicated staff in DRR.
Limited influence of the province in decentralised government.	National level authorities should limit direct interaction with district levels. New regulations requiring budgets to pass through provincial levels instead of direct allocation to districts should be supported.
Inconsistencies in DRR policies at different levels of administration. Lack of realisation of plans in practice.	All administrations should adopt the approach of a strategic and operation plan for DRR. DRR plans should be issued from higher decrees to increase their legal standing. All government agencies and MSPs should actively contribute to the development of plans.

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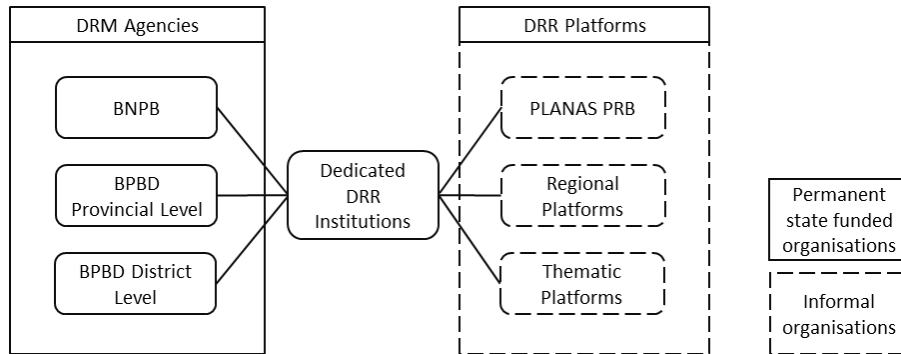
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**Table 3.** Acronyms.

ASEAN	Association of Southeast Asian Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNDP	United Nations Development Programme
UNICEF	United Nations Children’s Fund
AusAID	Australian Agency for International Development
BNPB	Indonesian National Disaster Management Agency
CVGHM	Centre for Volcanology and Geological Hazard Mitigation
BMKG	Indonesian Agency for Meteorological, Climatological and Geophysics
BPBD DKI Jakarta	Jakarta Provincial Disaster Management Agency
BPBD West Sumatra	West Sumatra Provincial Disaster Management Agency
BPBD Padang City	Padang City District Disaster Management Agency
BPBD Yogyakarta	Yogyakarta Provincial Disaster Management Agency
UGM	Gadjah Mada University, Yogyakarta
LIPi	Indonesian Institute of Sciences
MPBI	Indonesian Society for Disaster Management
HFI	Humanitarian Forum Indonesia
PLANAS PRB	Indonesian National Platform for DRR
KOGAMI	Tsunami Alert Community West Sumatra





**Figure 2.** Dedicated DRR institutions (author).

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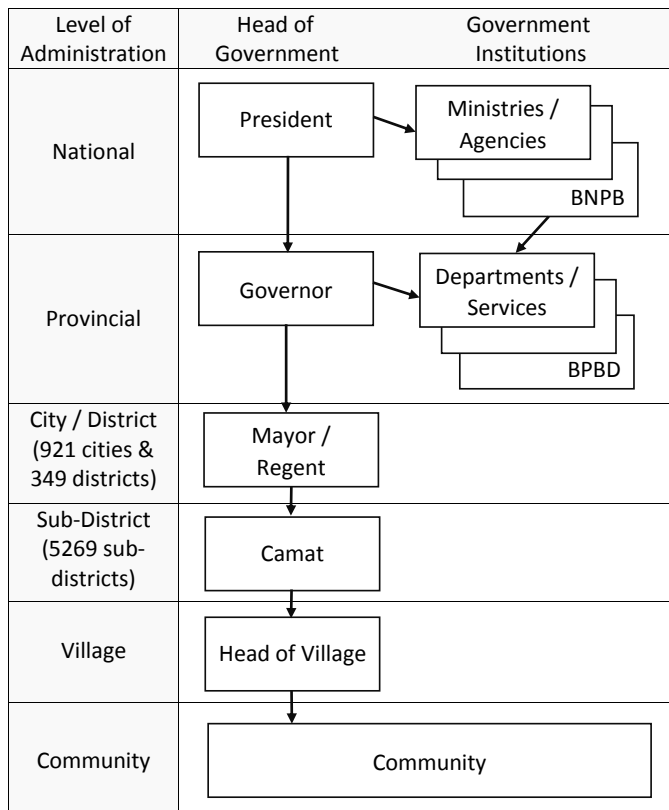
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**Figure 3.** Structure of the Indonesian government (adapted from COE-DMHA, 2011).

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