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Effective Financial Mechanisms

at the national and local level for

Disaster Risk Reduction

(Paper written for the mid term review of the UNISDR Hyogo Framework for Action)

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Glossary

1. Introduction and executive summary

This paper is written as a contribution to the Mid Term Review[1] of the Hyogo Framework for Action 2005 – 2015 (HFA) on Disaster Risk Reduction (DRR) (UNISDR, 2005). The document has been commissioned by the United Nations International Strategy for Disaster Reduction (UNISDR) and prepared by the United Nations Capital Development Fund (UNCDF).

The expected outcome of HFA over the period 2005 – 2015 is a "substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries". Whilst the HFA acknowledged the importance of "involving all stakeholders, including governments, regional and international organisations and financial institutions, civil society, including non-governmental organisations and volunteers, the private sector and the scientific community", it also recognised that: "the States have the primary responsibility to protect the people and property on their territory from hazards". The Hyogo declaration placed equal emphasis on formulating appropriate national policies as well as building capacities at the community level. Member states adopted the HFA in 2005 as a guiding framework for the next decade's work on disaster reduction. UNISDR was requested to provide periodic progress reviews and accordingly the second session of the Global Platform for Disaster Risk Reduction in June 2009 initiated the HFA Mid Term Review of which this paper is a part.

The first of the five Hyogo 'priorities for action' is "Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation". This includes the following key activity "Integrate risk reduction, as appropriate, into development policies and planning at all levels of government, including in poverty reduction strategies and sectors and multi sector policies and plans" (UNISDR, 2005). Biennial assessment reports measure progress against these priorities. The 2009 Global Assessment Report (2009 GAR) measures the core indicators on a scale of 1 for minor progress, to 5 for comprehensive achievement. 'Core indicator 2' of the Hyogo 'priority for action 1' measures whether "Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels" (UNISDR, 2009) (page 118). This report is focused on exploring how governments can improve their performance on *HFA priority for action 1, core indicator 2* and the other relevant indicators for this priority.

The 2009 GAR shows that from 60 reporting countries the average level of achievement for 'core indicator 2 is 3.1 – the lowest of indicators for priority 1. Whilst five countries achieve level 5 in the indicator measuring plans and policies, only two countries have managed to translate this into a level 5 score in financing DRR (UNISDR, 2009) (p120)

A literature review of global trends and data on in HFA implementation revealed that whilst HFA has indeed proven to be a useful normative and practical framework in guiding global

[1] The Hyogo framework (HFA) is designed as a systematic, strategic blueprint to guide national and international efforts to reduce vulnerabilities and risks induced by naturally occurring hazards and human made processes. The Hyogo Framework states that its implementation will be appropriately reviewed and the International Strategy for Disaster Reduction has been requested to prepare "periodic reviews on progress towards achieving its objectives and priorities... and provide reports and summaries to the [General] Assembly and other United Nations bodies… based on information from national platforms, regional and international organisations and other stakeholders…" Anticipating the approaching mid-point of the HFA, the UN Secretary General indicated to the General Assembly in 2008 that the second session of the Global Platform for Disaster Risk Reduction in June 2009 would initiate the mid term review (MTR) of HFA. The second session of the Global Platform held in Geneva on 16-19 June 2009 discussed the scope and modalities for the mid-term review and concluded that it should "address strategic and fundamental matters concerning is implementation to 2015 and beyond".

effort towards disaster risk management, gaps, concerns and incongruence remain (Kamal, 2010). These include:

- The conflation (and occasional confusion) between DRR and the overlapping but separate issue of resilience to climate change;
- Insufficient information on the governance aspects of DRR - "…there is not enough evidence in the literature to suggest that risk reduction is getting 'hardwired' into the business processes of the development sectors, planning ministries, financial institutions etc. The review also suggests a lack of information on the governance aspects of DRR;
- Evidence of greater *national* investment in DRR but concern that most of this funding is applied to response preparedness rather than risk reduction.
- Whilst many countries have national or sub national response mechanisms "…at the local level there is no funding allocation for emergency response. The flow of funds from higher administrative levels is often reported to be slow."

The 2005 – 2015 Hyogo framework for action builds on the preceding 1994 Yokahama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its plan of Action. A review of Yokahama, cited in the Hyogo framework stresses:

> *"… the scarcity of resources allocated specifically from development budgets for the realization of risk reduction objectives, either at national or regional level or through international cooperation and financial mechanisms, while noting the significant potential to better exploit existing resources and established practices for more effective disaster risk reduction* (UNISDR, 2005) *(p2)."*

Therefore whilst there is evidence of increased international cooperation on DRR, the (relative) scarcity of national resources allocated to DRR remains a common concern in Yokahama (1994), Hyogo (2005), the Global Assessment Report (2009) and its mid term review (2010). This paper aims to highlight some of the structural factors within resource allocation mechanisms that help to explain why national budgets remain stubbornly difficult to influence when it comes to DRR.

Some of these factors are alluded to in *Natural Hazards and Unnatural Disasters* a joint United Nations and World Bank report on DRR (UN_WB, 2010). Amongst its four findings is the insight that (disaster) prevention is possible, cost effective and that resources for prevention are often embedded in other budget items, such as the cost of infrastructure design. The report concludes that despite this potential fiscal saving, expenditures on prevention are generally lower than those on response, which "rise in the aftermath of disaster and remain high for several subsequent years" (p2). However the report does not directly address the difficulty of financing DRR in its four policy recommendations, which are: 1) Make known information on disaster risk available and thereby enable DRR to be reflected in (land, property, insurance) pricing; 2) Permit land and housing markets to work freely (therefore for prices should reflect the information referred to in the first recommendation) and reduce rental subsidies thereby improving incentives for investment in DRR; 3) Ensure adequate infrastructure is provided and maintained by governments; and 4) Effective oversight to be encouraged. (pp 3 – 8). Overall the report emphasises that free markets and prices will contribute to DRR and that government policy should include measures that enable markets to do this. The reader will judge how appropriate this advice

is for each country context. This report will not dwell on markets but will focus on the institutional governance arrangements that impact on DRR financing.

To this end we are concerned with the third recommendation in *Natural Hazards and Unnatural Disasters*, which documents the underinvestment in this area, particularly in maintenance. Yet like Yokahama and Hyogo, it does not move beyond this general lament to an exploration of why adequate DRR financing remains difficult to achieve despite the high stakes in human life and the potential savings involved. This paper makes a modest attempt to begin such a journey.

We will provide an overview of common principles and practice in Public Expenditure Management (PEM) and apply these to the context of DRR financing and investment at national, local and community levels.[2] This will include a brief review of background literature in PEM and an analysis of its interface with DRR. This analytical framework is supplemented with information drawn from country case studies. The paper uses on existing secondary data and analysis of investment flows by their governments – including intra and inter governmental fiscal transfers from central to local levels of territorial administration and to communities.

Section 2 comprises an analytical framework that swiftly defines the terms *public expenditure management*, *government & governance* at the national and *disaster risk reduction* before moving on to present four conceptual approaches to looking at DRR financing. These are:

- DRR in the formal resource allocation process
- Resource flows to DRR as a consequence of the regulatory environment
- DRR and sub-national public expenditure management
- The role of the citizen and the community in (public) DRR financing

In each case the paper introduces technical material on PEM but attempts to reduce it to the essential principles that permit a cross-country analysis. The objective of the paper is to illuminate the interface between PEM and DRR and therefore highlight the difficulties in providing adequate financing for disaster risk management as well as provoke insights into how some of these obstacles could be overcome. Hence the document may inspire those working in the DRR field to acquaint themselves with the PEM environment in their respective country and use this knowledge to secure further improvements in risk management financing.

Section 3 illustrates how this framework can be applied to specific country case studies – using Indonesia as an example. The section suggests that countries of high disaster risk do attempt to mainstream DRR into policy and financing at both but that there are structural PEM obstacles that can restrict the scope for this.

[2] Risk reduction measures are taken to include: Early warning; preparedness; risk assessments; risk reducing measures embedded in infrastructure; as well as measures related to development sectors like transport, health, education, and agriculture.

1.1 Conclusions and recommendations

1.1 Broad political will is not enough…prevention is better than cure but it is unlikely that preventative spending alone be sufficient…

The paper illustrates how structural features of Public Expenditure Management and of state governance make it difficult for cross cutting issues like DRR to be effectively financed, despite the apparent fiscal savings from doing so. Therefore whilst countries appear to be meeting HFA priority for action 1, when one scratches the surface it appears that the effectiveness of these plans and policies in influencing expenditure is limited. Therefore whilst pushing for DRR is important countries should also retain a key interest in complementary disaster response mechanisms.

1.2 DRR financing is much more effective when mainstreamed into non DRR institutions…

The paper shows that basic DRR is an existing function of many departments at all levels of government and has been so for a long time. The key question is widening the scope of this DRR to include the issues addressed by Hyogo. It is far more effective to finance DRR by increasing awareness to the extent that it becomes an automatic process in response to new appreciation of the wider environment. For example, flood control is an established function; the question is how should this function improve in response to new information. Yet the budget processes in many countries lead to the establishment of DRR departments or projects as a way of financing the issue, despite the constraints on effectiveness of this approach.

1.3 Local level is important – but beware perverse incentives

We demonstrate that the local level is of fundamental importance, not only because it is ‘closer’ to the citizens but because it is the repository of the basic environmental management and regulatory governance functions that are essential for effective DRR. Yet there are also perverse incentives at this level and DRR may not always be a priority for local decision makers, institutions and citizens. The role of ‘voice’ at this level in influencing DRR expenditure outcomes is crucial. Finally – governments should examine the fiscal grant systems and budget allocations to local institutions and explore the channelling of DRR funds through these routes – which can be most effective in meeting the additional costs to existing responsibilities and to addressing associated capacity constraints.

2. Analytical framework

To enable a useful discussion of a broad subject in a short document we propose an analytical framework that allows a comparison between the three case studies presented here and more importantly invites the reader to apply the framework to their own experience in financing DRR. The title of this paper is "*Effective Financial Mechanisms at the national and local level for Disaster Risk Reduction*". In order to focus discussion it will be instructive to briefly unpack this phrase. This opening section defines the terms to be applied in the framework and introduces the conceptual approach.

2.1 Defining terms

This sub section describes the key terms to be applied throughout the paper.

2.1.1 Public expenditure management

We will use the term Public Expenditure Management (PEM) to unlock our examination of 'effective financial mechanisms". PEM does not exclude private sector expenditure processes and flows but it places them within the context of public policy and public resources. The Hyogo agreement is mainly concerned with government, governance and its relationship with expenditure on disaster risk. We will mention but not look in detail at the wider universe of private finance that contains such areas as disaster risk insurance, the construction industry, technology development etc. Nevertheless the paper will address how public policy can influence the environment for (and therefore the volume of resources in) these private sector areas.

Public Expenditure Management can be defined as the processes and procedures by which governments receive and allocate resources. It embraces where resources come from, where they are spent and how they are spent. It encompasses, but is wider than, the budget process.

A key PEM principle is the appropriate scope for public expenditure alongside private expenditure and the role of budgeting in deciding where to spend public money. Since the mid 20th century it has been generally accepted that resource allocation strategy is not separate from the other functions of public expenditure management that include macro-economic stability and efficient and effective use of public funds (Musgrave, 1959) (Fozzard, 2001). Public expenditure is considered appropriate for goods and services that cannot be effectively supplied to (or enjoyed by) citizens or consumers on an individual basis. For example the police force and the highway network are provided to all, whether we use them or not. It would not be appropriate for each to have their own law enforcement system or private road; these are considered *public goods*. Public expenditure is also considered appropriate for *club goods* that are most effectively utilised by a group of people (the members of the 'club') up to a certain point of 'congestion'. These can include schools and health services where economies of scale make it more efficient for the goods and services to be made available on a collective basis. *Mixed goods* are those that exhibit characteristics of both public, club and private goods (Samuelson, 1954). Public, club and mixed goods are typically financed by both public and private expenditure and there is a rich debate in all countries about the most appropriate and effective mix. For our purposes it is useful to consider the distinction between private disaster risk financing such as an individual insurance policy against damage to a private building and public disaster risk financing such as the maintenance of a bridge critical for escape from a disaster prone area for all

individuals, whether or not they have insured their homes. There may be circumstances in which the public maintenance (or construction) of the bridge has an impact on the private insurance financing.

A second element of PEM is that it sees individuals as citizens, in contrast to the private sector focus on consumers. One way of perceiving this distinction is through the concepts of Exit and Voice (Hirschman, 1970). As individuals, consumers can and do "exit" the market. Either they cannot afford, or decline to buy, the goods and services on offer around them. However as citizens "exit" opportunities are limited; emigration is a last resort. Therefore whilst consumers engage through exit and influence firms' behaviour by walking away from their products, citizens tend to actively express "voice" in order to influence the availability and nature of the public and club goods to which they are exposed.[3] Consequently PEM is not a purely technocratic or value free exercise – despite the underlying foundational premises of maintaining macro stability and ensuring efficiency and efficacy in the public weal. There is a paradox because *on the one hand* governments have a fiduciary duty to their citizens to maximise the utility of the public resources disposable to them, similar to a private company's fiduciary duty to maximise value to shareholders. Yet *on the other hand,* this public fiduciary duty is balanced with their political duty to respond to the effective voice of their citizens, some of whom have collective or individual voices that are louder than others. The legitimacy of a government depends on its competent and efficient management of resources on behalf of is citizens *and* its ability to spend these resources on things citizens (and especially powerful groups of citizens) want. These are not always the same thing and this is why governments can and often do manage public expenditure in contradictory ways. It is also why it can be difficult for governments at both central and local level to effectively finance Disaster Risk Reduction.

2.1.2 National and local governments and governance

The UN World Public Sector report defines *government* as:

> *"… a public organisation, part of a broader governance system… a public organisation set up by society for the purpose of pursuing that society's development objectives… Enjoyment of public consent constitutes the source of government's legitimacy. Transparency is a condition sine qua non for government's accountability vis-à-vis its oversight body."* (UNPAN, 2003)

Local government therefore is the public organisation with jurisdiction over a specific division of national territory.[4] Government as a set of formal institutions with power to rule is distinct from the wider concept of *governance,* which is defined by UNDP as:

> *"…the exercise of political, economic and administrative authority to manage a nation's affairs. It is the complex mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights and obligations, and mediate their differences."* (UNDP, 2004b)

Local governance is then the application of this definition within specific divisions of national territory under the jurisdictions of local government.

[3] *Voice* is a theoretical concept developed by Hirshman to describe ways in which members of a social grouping (organisation, community or society) positively engage to with that grouping to alter their position. The alternative is posed as *Exit*, which means walking away (i.e. becoming a refugee, resigning from the organization etc).

[4] To some extent the collective of local government and local governance is synonymous with the term 'local state', however this is a more contested sociological concept and we shall refrain from using it here.

As defined above, legitimate government requires that citizens consent to the authority wielded over them. Public consent is partially derived from the understanding that the state will protect its citizens by reducing (as far as possible) their exposure to risk and by providing timely support in response to any disaster. Indeed these are examples of *public goods* referred to above. When states fail to provide this protection the legitimacy of government can be (and has been) called into question. In a post disaster environment the very legitimacy of the state can be weakened; risk management and disaster response are not only technical or humanitarian issues, they are also part of a much wider political canvass, which calls for more attention to be paid to their financing.

2.1.3 Disaster Risk Reduction

In an effort to standardise terminology, and as part of the Hyogo Framework, UNISDR has provided a set of standard definitions of DRR terms (see annex 1) and these will be applied in this paper. *Natural Hazards and Unnatural Disasters* provides a comprehensive review of DRR that is summarised in four main findings:

- A disaster exposes the cumulative implications of many earlier decisions, some taken individually, others collectively, and a few by default;
- Prevention is often possible and cost effective;
- Many measures, private and public, must work well together for effective prevention;
- The exposure to hazards will rise in cities, but greater exposure need not increase vulnerability. (UN_WB, 2010) (pp 1:3)

The 2010 report's recommendations in response to these findings are outlined on page 2 above. For the purposes of this study the four findings constitute the heart of disaster risk reduction. We will zoom in on how public expenditure management is geared towards meeting the challenges encapsulated in them. As the title of the joint report suggests, hazards themselves are natural and omnipresent in our environment. It is the disasters that are sometimes unnatural – engendered by a failure to take into account the risk of them happening.

Before moving on, it is worth briefly dwelling on this point. DRR and climate resilience practitioners have pointed out that risk reduction and climate adaptation are already part of everyday life (Jackson, 2010a). Insurance policies, central heating, air conditioning and ancient technologies such as tepees and igloos have enabled us to prosper in potentially hostile environments; only those living in full exposure to the elements are not adapting and reducing risk. Two insights can be gleaned from this. Firstly it is important not to make a fetish of DRR and resilience; secondly it is something that public expenditure management is already concerned with. There is a long history, particularly in urban areas, of public resources being committed to the mitigation of diseases and other disasters such as flooding. As early as the year 200bc Roman architecture was designed with inbuilt drains to avoid flash floods that would otherwise result from paved impervious streets (Hansen, undated). More recently this point has been developed by those who argue that a key issue in DRR and other forms of increased resilience is that public expenditure should not be directed at *new* departments, functions or budget lines, but instead should be used to improve existing national and local systems and reinforce their investments in areas such as land management and water. (Satterthwaite, 2008). We will illustrate why these arguments are often bypassed in favour of dedicated DRR institutions.

Our arguments rest on the solid empirical foundation of the review of HFA progress contained in chapter 5 of the 2009 HFA Global Assessment Report (UNISDR, 2009), which includes the HFA Priority for Action 1 and its indicators - illustrated in table 1 below.

Table 1: HFA Priority for Action 1 and core indicators

HFA Priority for Action 1: Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation		
Core indicators	Key points from 2009 Global Assessment Report	Issues raised in this paper
1) National policy and legal framework for disaster risk reduction exists with decentralised responsibilities and capacities at all levels	There is significant progress in making DRR a national priority. Cayman Islands, Bahrain, Ecuador, Colombia are highlighted in addition to decentralised systems in Philippines, Sri Lanka and Iran	A high score on this indicator can be obtained by demonstrating normative policy and planning documents, this is not always matched by resource flows to DRR
2) Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels	In many countries DRR still depends heavily on external sources of finance, however progress is demonstrated. Challenges include competing priorities and lack of legally binding commitments. Colombia and Iran include DDR in national budgets.	Meeting these challenges will require an understanding the dynamics of the budget process and the linkage between plans and budgets. Fiscal Grant mechanisms provide potential solutions for local DRR financing.
3) Community participation and decentralisation are ensured through the delegation of authority and resources to local levels	Decentralisation is often favourable to DRR (cities of Bogota, Medellin – Colombia and La Paz – Bolivia). Capacity constrains are present, role of NGOs is important. Local governments in higher income countries often have mandatory DRR responsibilities. Centralised budgets and a focus on disaster response is a limitation in some countries (Bangladesh, Lao PDR and Indonesia)	Local governments are often the most appropriate agencies for mainstreaming DRR, however there can be perverse local incentives that work against DRR financing, The role of Non Government actors in expressing 'voice' for DRR is important. There are technical ways to overcome capacity constraints.
4) A national multisectoral platform for disaster risk reduction is functioning	These platforms have been established in some countries (Egypt, Colombia, Costa Rica, Panama, USA) There is a multi country response (ECCAS) in Central Africa. DRR audits in Colombia	Indonesia has recently established such a platform the evidence shows that effective DRR financing at the local level requires 'voice' and the platforms can help foster this. However the platforms are less effective in directing resources flows.

2.2 Four conceptual approaches

The challenges presented in meeting the HFA Priority for Action 1 can be better understood through an appreciation of links between PEM and DRR. The remainder of this section will introduce the conceptual approaches that will be applied to explore these, enabling country case studies to be examined on the basis of the permutations demonstrated within each approach and the interplay between them. The approaches are:

- DRR in the formal resource allocation process;
- Resource flows to DRR as a consequence of the regulatory environment;
- DRR and Sub national public expenditure management;
- The role of the citizen and the community in (public) DRR financing.

2.2.1 DRR in the budget process

The 2009 GAR indicates that in spite of some success in planning and policies for DRR there are significant bottlenecks in making resources available for these plans, and that (in some countries) DRR financing is still heavily dependent on resources from bilateral and multilateral cooperation. The budget process is the institutional means by which resources are allocated towards plans, policies and departments. Unpacking this will enable us to examine the constraints and opportunities for DRR financing within PEM systems and will help us understand why DRR plans are often underfunded.

A consensus has emerged on a budget classification methodology that, to a greater or lesser extent, is adopted by most countries. Recent International Monetary Fund (IMF) technical notes continue to suggest that public expenditure is simultaneously classified by a system of separate categories (Jacobs, Hélis, & Bouley, 2008). These include the source of income (general taxation, sale of assets, etc) and the economic nature of the expenditure (capital goods, loan repayment, services etc).[5] In addition to this *economic classifier* there are classifying labels that become important drivers for decision making during the budget process. These are the listing of expenditure by Departmental or Administrative unit on the one hand and the listing of expenditure by Function on the other hand. There is also the organisation of expenditure by programme or project, where these exist. These classifications are illustrated in the following matrix, which represents a simplification of a set of complex processes.[6]

Table 2: Matrix of formal resource allocation process

Budget classifier / resource allocation driver	Resource recipient	Budget type		Notes
		Recurrent	Project / Capital / Development[7]	
Departmental or Administrative budget classification	Department	Core department staff and operations (e.g. health service managers)	Departmental development (new installations, MIS, training etc)	
Functional budget classification	Department	Functional department staff and operations (e.g. nurses)	Specific functional task with start and end dates and finite resource envelope	Sometimes be sub-contracted to private sector
Project / Programme budget classification	Project / Programme management unit	Recurrent funded staff could be allocated to oversight or supervision functions	Specific set of activities with start and end dates and finite resource envelope	Often sub-contracted to private sector

Source: Table prepared by the author

The three rows in the table represent key resource allocation drivers in the budget process. This means that in addition to their role as a way of listing expenditure they 'represent' key interest groups and decision makers that influence the resource allocation. For example, the departmental or administrative budget classification defines the slice of the cake awarded to each administrative unit and sub unit (ministry, division, department etc) – from the apex of the hierarchy downwards each will play a keen interest in the size of its slice, indeed studies

[5] In public sector accounting capital goods are normally fixed assets that are added to the inventory and have a useful life longer than 1 year.

[6] By the term formal resource allocation process we are conflating the various approaches of administrative, rational and incremental budgeting into a simple matrix that assumes both bureaucratic processes are followed and that the institutional incentives suggested by public choice or political economy theories are played out.

[7] The term 'Capital Budget' in this column is often also called the project or development budget. It is an envelope for project financing and expenditure does not necessarily accrue 100% to capital items as defined in footnote 5.

indicate that this can be the primary driver for budgetary decisions in some countries (Jackson, 2004a) (Hodges & Tibana, 2004).

The functional classification becomes important to lobbies (bureaucratic, political, civil society) that are keen to see resources allocated towards certain themes, such as roads, or education. These can be spread over different departments and territorial divisions but are all destined for the same function. Likewise the project / programme classifier can also an important driver. These resources often end up in *quangos* or (state bodies parallel to mainstream ministries) responsible for high profile projects that can embrace many functional classifiers.[8] The North American Space Agency (NASA) is an example of a quango whose multifaceted work led it to become one of the first to apply the third category in the table – budgeting by programme (Margolis, Milton, Barro, & Stephen, 1967).

Programme budgeting and its variants seek to categorise expenditure by objective or purpose. For example the purpose of reaching the moon was seen as the primary objective and the space programme divided expenditure for the preparatory activities into subsidiary objectives (develop a rocket engine, etc) that could be categorised irrespective of department or function. Other examples would be national programmes that aim to re-develop backward regions or rebuild following disasters. Programmes too have lobbyists and interests that seek to maximise their funding.

In conclusion, public resource allocation is influenced by conflicting plans, polices and pressures extant during the bureaucratic process of preparing budget proposals and the political process of approving them. It is a subjective process open to citizen voice. This will influence the degree to which governments can implement some of the recommendations in the 2010 UN / WB report.

Table 2 also illustrates a second dimension to the budget process, which is that resources are allocated from different 'envelopes' or funds, each with different decision making methodologies and budget proposal compilation processes. This is usually divided into the recurrent budget on one hand and the 'project' 'capital' or 'development' budget on the other. The recurrent budget refers to those resources, allocated on an annual basis, to enable governments to perform their central tasks and support their existence (pay bills, support core staff structures etc). Generally the envelopes for the recurrent budget are calculated on an incremental basis based on a percentage of the previous year's value and do not change significantly from year to year but trend upwards or downwards over time. The 'project' or 'development' budget is different. This refers to resources allocated against proposals for 'projects' with finite time duration, output and cost. This can range from a large infrastructure project to the completion of a series of training courses for staff. In some cases 'projects' are used to subsidise activities that would more appropriately be financed by the recurrent budget. (Jackson, 2010a) Clearly the 'project' budget is easier to influence and can be used for bulky or irregular items of expenditure – such as capital investments for DRR. However funds from this budget are highly contested and DRR activities would need to compete with other priorities. Figure 1 provides an illustration.

[8] Quango = quasi-autonomous governmental organisation.

Figure 1: Relationship between economic classifier and recurrent / project budget

	Economic Budget Classifier	
	Capital	Non Capital
Recurrent (normally incremental changes in resource envelope)	Some air conditioners to upgrade offices	Teachers' Salaries
Project (greater fluctuation in resource envelope, specific approval process, activities of finite duration)	A new school building	A consultancy to install a new software system

Source: (Jackson, 2009)

This stylised simplification of the budget process allows us to consider how DRR fits in. From the above we can surmise three options for targeting resources towards DRR requirements.

Create a department: One way of financing DRR is the creation of a new department that can then receive its own recurrent and 'project' financing. This does not necessarily mean a new ministry; it could include any new administrative division within the appropriate governmental structure. This can have presentational advantages – something is seen to be done and someone is seen to be in charge of DRR. But it can also lead to inefficiencies, overlapping mandates and unclear lines of command and accountability. As discussed in section 2.1.3 above, many existing departments already carry out DRR functions, albeit in a minimalistic way and the new department may have a coordinating mandate rather than an implementing one. Will it be able to impose itself on implementing departments, or will it seek to duplicate their activities and lead to inefficient resource allocation, particularly if the new department is responsible for reducing the risk of floods, for example, but not for management of drainage, such as in Indonesia – as outlined in section 3.

Yet even when the department is directly responsible for implementation there can still be problems. The failure of the flood control agencies to manage the evident and longstanding risk of a breach of New Orleans levees (despite an implementing mandate) is a high profile example (Abdelmalak, 2006). Nevertheless there is the advantage of resource mobilisation. Donors, taxpayers and national parliaments may feel more comfortable funding DRR through a named department. Once created the department is likely to strive to remain in existence, becoming a player in the budget process as described – leading to a degree of sustainability.

Create or enhance the weight given to the function: A second option is to increase the resources provided for the DRR function across departments. This is more difficult because it requires effort on behalf of those who may not be fully aware of the issues, and because it may create incentives for departmental disputes where there are overlapping mandates or functions. Yet when strong policy support and resources for a function are signalled, departments often seek to attract resources by finding ways to build this function into their mandates and responsibilities. Whilst the first option may be successful in raising the profile of DRR to the general public, the second may be preferable in terms of increasing awareness of the issue amongst government staff, and particularly managers responsible for PEM. This may also require a degree of sophistication in the system of budget codes. Most countries have budget codes that enable resources to be tracked by function irrespective of department. In some developing countries this is a pre-requisite for budget support (Batley, Bjornestad, & Cumbi, 2005). Nevertheless the addition of an additional code specifically for DRR may be difficult. There is also the potential of additional reporting overheads if it is not possible to automatically generate this data from ongoing business processes.

Create a project: Another method of financing DRR is to create a project or programme specifically to address it. Unlike the first option, this does not involve the establishment of a permanent department and therefore has less call on the recurrent budget. A project or programme can be created that sits within an appropriate department, possibly involving the secondment of recurrent funded staff and services and perhaps with a mandate to work with other departments. The new project by definition is likely to be financed by the 'project' budget. High-level projects can sit at the apex of an organisational structure (for example in the prime minsters office to work with all ministries or ministers office to work with all units). Again there are pros and cons. Projects can fail to integrate with mainstream activities and become marginalised, leading to questions over their sustainability and effectiveness. On the other hand there is administrative simplicity for the government system itself, potential for resource mobilisation and for raising the profile of DRR. A project also opens up imaginative possibilities for collaboration with non-government actors, the private sector and international organisations – all of whom may play a role in its implementation using modalities that would not be possible within the mainstream government system.

Above we have outlined avenues for embedding DRR within national resource allocation systems. This has meant examining budgets rather than plans. We shall now touch on the distinction between developing a DRR plan (or a reference to DRR within a plan) and its funding. The 2009 GAR highlights that whilst many countries show progress in developing policies and plans for DRR, there is lagging progress in financing these plans (Ch 5, p123). This is a common feature in plans relating to cross cutting issues like disaster management. It can best be understood (and avoided) by examining the relationship between plans and budgets. In PEM the budget itself *is* the plan – a forward looking document that outlines exactly what it is proposed over a specific timescale. (Wildavsky, 1974). Many are unrealistic plans – as evidenced by low delivery rates. Whilst the budget can be considered the plan that has the closest link to expenditure outcomes, other plans further abstracted from the resource allocation process. Whilst plans are often grouped by their time horizon (annual, strategic etc) or thematic content there is another way of looking at plans that can shed light on the degree of this abstraction. (Jackson, 2004b):

Responsibility/resource-related plans. These are plans closest to the budget - produced and approved by departments that outline what they will do with the means at their disposal in their defined areas of responsibility. They sometimes provide the legal basis for activity and

expenditure. Ministers, parliaments or assemblies often approve these plans simultaneous to budget approval. They can be linked to the budget to the extent that budget revisions require concomitant plan revisions.

Regulatory plans. These are plans produced and approved by departments with a legal mandate to establish regulations that must be adhered to by other bodies. Urban land use plans provide an example of these. Some countries have very strict spatial plans detailing what type of activity can and cannot take place in each geographical location. There is no direct link to budgeting in these plans, although there may be a legal requirement to apply the policies they contain.

Coordinating plans. Plans produced and approved by bodies that provide coordination, orientation and encouragement for what other bodies should do, without having the obligatory nature and statutory force of the category above. These plans attempt to mobilise resources and coordinate activities, sometimes involving a wide range of different bodies. These plans are the furthest removed from the budget process. Even if they are produced in accordance with legislation, the role of the statute in this case is to legitimise their existence and indicate their purpose without necessarily attributing meaningful statutory force to them.

Plans for financing DRR are found in all three categories. A specific department or programme created for DRR has a high chance of financing the parts of its plan that relate to its direct activities and resources. However the same body may achieve less when it plans for *others* do to things with their resources. It is important therefore to ensure that *critical* activities (such as maintaining levees) are either performed by bodies that are specifically funded to do them or are fully funded through open and transparent functional funding incentives built into the budget process. The programme solution may work for financing capacity building and awareness raising but there may be sustainability issues funding core disaster risk activities through this method. In conclusion, the financing of DRR activities in any particular country are likely to depend on the way that DRR is inserted into the budget process.

Yet, studies on the Katrina experience show that even the departmental method is insufficient when the regulatory environment is undeveloped and poorly enforced (Abdelmalak, 2006). The next sub-section will look at how resource flows to DRR are affected by the regulatory environment.

2.2.2 Resource flows to DRR as a consequence of the regulatory environment

Whatever option for integrating DRR within the budget is chosen, governments (at national and local levels) can seek to leverage this initial funding by creating a regulatory environment that attracts a greater amount of public and private resources to finance DRR concerns and activities. They also need to ensure that resources directed to DRR are efficiently and effectively used. Their ability to do this will depend on the skill with which they can mould the respective legislation, norms, rules and guidelines to address DRR and also upon the relative strength of regulatory culture in any particular country. Areas open for this approach include:

- Urban and regional planning, land use zoning and other physical and environmental planning regulations
- Construction regulations, building standards and conditions for construction industry licences

- Procurement and contractual guidelines and norms – particularly in industries such as construction, energy, transport, water supply and drainage and solid waste management.
- Educational curricula and public information campaigns. Incentives for publicity and advertising.
- Insurance, banking and mortgage industry rules. Procedures for valuation and other property related activities.

Good DRR practice often involves its detailed inclusion in such regulatory instruments. This can create the conditions and incentives for further resource flows to DRR by the public and private sectors. Yet there are several factors that can limit the effectiveness of this approach to DRR financing.

Firstly there is the issue of *acceptance*. DRR concerns are not always considered legitimate and over-heavy regulation is often considered a break on economic growth or on personal freedoms, indeed sometimes DRR measures are considered to fetter the free market. In addition legislators at all levels do not always have the inclination or the political space to enact such rules – despite the existence of internationally (or nationally) agreed standards.

A second factor concerns the *regulatory culture* of the country concerned (or the industry sector within a country). This includes the availability of information about regulations – including by those expected to enforce them as well as those required to follow them. It also includes the contract management capacity of institutions (often public sector) that are responsible for managing investments and other projects. In the case of Hurricane Katrina the poor ability of the authorities to manage the levee maintenance contracts with the US Army Engineer Corps is cited as a contributory factor to the breakdown of the disaster risk management system (Abdelmalak, 2006). In many places institutional culture is weak in this area and there is little increased financing for DRR measures despite positive regulations.

Finally there are the ancillary and incremental costs associated with DRR good practice and the implementation of relevant regulations. These can include increased unit costs and construction costs, technical consultants fees and surveys, and the cost of litigation in cases where compliance is an issue. In many places financial incentives are not always structured in a way that encourages effective DRR, leading to either planning blight, corner cutting or other methods of avoidance. This may change if the insurance, construction and real estate sectors place higher value on disaster risk and if public awareness is raised. Improved technological adaptations may also change this equation – and may be one potential outcome of increased DRR financing in education and research. In summary, whilst the regulatory environment can be a way for the public sector to marshal additional financing towards DRR the current incentive structure is not always conducive to the effective absorption of these resources.

2.2.3 DRR and sub-national public expenditure management

Sub national financing of DRR concerns the mandates, responsibilities and authority attributed to sub national governments. This area of analysis is involves looking at *decentralisation*. Reduced to their basic essentials, the dimensions of decentralisation can be expressed in the table below:

Table 3: Typology of decentralisation in local government[9]

Scope decentralisation	Nature of decentralisation		
	Devolution	Delegation	De-concentration
Political			
Fiscal			
Administrative			

Source: (Jackson, 2010b) *adapted from Manor* (Manor, 1998)

Decentralisation represents a sharing of power, resources and responsibilities between the central state organisations and local state organisations. In table 3 the column 'scope of decentralisation' illustrates the three types of responsibility that can be shared. These are: political – the taking of decisions and making of policy; fiscal – the degree of autonomy to raise and spend revenue; and administrative – the degree of autonomy in the implementation of decisions and policy. The way in which these are shared is illustrated in the three columns to the right. Devolution refers to legally enshrined autonomy in which the local government exercises full authority over a particular set of responsibilities; federalism can be seen as an extreme form of devolution. Delegation refers to the exercise of responsibilities on the behalf of a higher-level agency that retains ultimate legal responsibility for them. De-concentration is working through departments of the higher-level agency that are located in the local government area.

This matrix enables us to link the analysis of DRR financing to sub national levels. For example in the case of de-concentration sub national departments are responsible for implementing at field level DRR activities budgeted at central level under the formal resource allocation process identified in table 1. In the case of devolution and delegation the regulatory environment offers an appropriate tool to influence sub national DRR financing. This is particularly the case for extreme forms of devolution such as federalism where central governments have less direct influence on local spending patterns. Though as we have noted, care must be taken to enact regulations that are sufficiently strong. National level projects or programmes, as illustrated in table 1, are another method to ensure local involvement in DRR particularly if implementation is delegated to sub national governments.

Revenue sources are a key feature of sub national PEM is that of revenue sources. Central government revenue is comprised of taxes, loans, other proceeds and grants (including budget support from other governments in some cases). Most of these revenues have (limited) conditions attached to them and there is *de jure* a reasonable amount of discretion over resource allocation choices, whilst *de facto* governments are constrained by macro economic and political conditions. Sub-national revenues are largely comprised of fiscal grants and budget allocations from the central level. Own revenue sources (from local taxes and fees) are also present but tend to make a smaller contribution to the overall resource envelope. Some local authorities are also in a position to take out loans and issue bonds, although these are far more likely to be for specific projects or programmes – the general purpose loans enjoyed by national governments are rare at sub national level.

Therefore, the structure of sub national finance indicates that the system of fiscal grants from central to local government is an effective route to encourage sub national DRR

[9] Adapted from The Implications of Decentralisation and De-concentration for the National Planning and Budget System David Jackson, Velasco Bazima and Roberto Salomão, Mozambique Ministry of Planning and Finance December (2003).

financing. Whilst the area of grants is complex, we can summarise three grant categories that are used to finance DRR at the sub national level.

Earmarked grants (and budget allocations) specifically for DRR related activities. This includes fiscal transfers to devolved authorities and budgetary allocations for de-concentrated authorities that are assigned to DRR. An example would be payments from the Ministry of Education to ensure that a full risk assessment is carried out on all schools and that remedial measures are put in place. If the school system operates under a devolved mandate this would be the form of fiscal transfer to the local government as a financially autonomous entity. If the management of the schools falls within a system of de-concentration it would be a budget allocation in a centrally approved budget to be implemented locally.

Performance based grant systems in which DRR is included in the assessment criteria. This is a more sophisticated method of financing DRR through local governments that would require DRR measures to become part of the basic planning and design processes. In this instance, the payments would not be for specific DRR activities, rather the local authority would receive an increase in its overall *discretionary* transfers as a reward for taking DRR seriously, and this would be assessed through an audit of the relevant local processes.

Top up incremental financing to meet the additional cost of DRR. This is also more advanced system in which local governments receive additional top up financing as an additional percentage. This could be applied to local governments covering disaster prone territories. Top up financing would require a transparent calculation of the additional cost of meeting DRR considerations in the territory concerned. The overall formula for grant allocations to local government is then altered to take this into account.

Our review shows that, earmarked grants, together with locally implemented parts of national programmes, are the most common form of local government DRR financing. However this may be a less sustainable form of mainstreaming DRR into local government thinking than performance based and top up systems. Some countries are developing performance-based systems that, once established, can lesson the administrative overheads of assessments as economies of scale and institutional memory grows. Incremental financing is carried out in certain highly vulnerable territories, and recently there have been experiments to widen its scope and expand this form of finance to more local governments.

2.2.4 The role of the citizen and the community in (public) DRR financing

We shall complete our overview by examining the role of communities and the citizen in effective financial mechanisms for DRR. This brings us to the concept of local governance, which can be defined as:

“the complex mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights and obligations, and mediate their differences” (UNDP, 2004c)

As referred to in section 2.1.1, PEM (to a greater or lesser degree) operates in the context of citizen voice. This is equally the case for community financing of DRR. Citizens collectively and individually engage with local governments to influence their priorities and expenditure patterns, defining what is and is not feasible. As section 4 will demonstrate, this does not always work in favour of DRR. There are different forms of voice, and their expression at the local level is linked to the scope of decentralisation, as indicated in table 4. The typology is not exhaustive and again attempts to simplify complex processes.

Table 4: Typology of *voice* in local governance

Scope of decentralisation	Exercise of *voice* in local governance				
	Elected representation	Bureaucratic action[10]	Interest group lobby	Social action[11]	Passive consultation[12]
Political					
Fiscal					
Administrative					

Source: (Jackson, 2010b)

By elected representation we refer to elected officials or deputies of elected assemblies that hold power over some or all of the decentralised responsibilities. Bureaucratic action means the *voice* and action of non-elected officials in local government. Interest group lobby is the pressure for policies and decisions made by political parties, businesses and other organised agencies. Social action is the pressure applied by coalitions and groups of citizens, whether through demonstrations, strikes, publicity lobbying or other means. Passive consultation is the involvement in decision and policy making by pre-selected groups who are consulted on pre-defined issues a part of the decision / policy making process.

How many of the above manifestations of voice would argue for increased resource allocation towards DRR measures? Experience indicates that DRR expenditure is often 'invisible' – until the disaster itself, following which social action from an angry community can demand accountability for the lack of prior risk management. This is one reason why local government DRR is difficult to establish if it seems to be directing resources away from other priorities, or if it appears to be preventing people from living in areas they prefer. Our case studies will illustrate an example of this.

Nevertheless, there are important examples of communities and local governments working together for effective disaster management. This is often the case in early warning systems where cheap models using technologies such as telephone trees have proven to be significant lifesavers. When Hurricane Mitch struck Honduras in 1998, the district of La Masica on the Caribbean coast was able to mitigate losses through a process of local level risk management and early warning developed before the disaster struck. No deaths occurred in La Masica, in comparison to neighbouring watersheds with similar characteristics, where hundreds lost their lives (UNDP, 2004a). Linking DRR to local community knowledge and practice or expanding the base of this knowledge and awareness can also be particularly effective at the local level.

In addition to high level policy and technical standards disaster risk management and reduction requires preparations and actions on the micro scale of everyday life. This

[10] Mohamad G. Alkadry usefully points out the *voice* exercised by bureaucrats (either on their own behalf or on behalf of lobbying citizens – who can also be neighbours and share the group characteristics – see Deliberative Discourse between Citizens and Administrators If Citizens Talk, will Administrators Listen? In Administration & Society, Vol. 35, No. 2, 184-209 (2003)

[11] The definition of *social action* used here is narrower than the Weberian term that would cover almost all the types of voice in the table. In this paper by *social action* we mean active and open group actions such as strikes, demonstrations, campaigns and other socially organized expressions of voice.

[12] We use this term rather than the term "participation" to describe the Participatory Rural Appraisal methodologies developed by Robert Chambers and applied by many development agencies in decision-making. The word passive is used because the participants do not determine the time, date, and agenda of this consultation. This is described in Local Governance Approach to Social Reintegration and Economic Recovery in Post Conflict Countries: The view from Mozambique David Jackson, UNCDF/UNBCPR/ Institute of Public Administration conference on "A Local Governance approach to Post Conflict Recovery". New York, (2002) and in Participation: the New Tyranny? Cooke and Kothari (ed.) Zed books (2003). See also reference to Chambers in note 20 below.

fundamental element of DRR can only take place at the community level, and local governments have a big role in providing the information and incentives for this. A 2009 review of the implementation of Hyogo at the community level covered 48 African, Asian and American countries and constitutes a detailed survey of community based organsiations (Global_Network, 2009).

The report concludes that there is least progress towards HFA priory for action 1 across all its core indicators, and within that even less progress towards core indicator 2. This contrasts the positive outlook towards this HFA PFA 1 in the 2009 GAR. Evidence is therefore provided that central level policies and plans are failing to reach the local level with concrete actions and financing. We have demonstrated some of the reasons why this can happen. The report makes the following core recommendations.

- Reorient HFA implementation strategies to support a proactive and systematic deepening of engagement with at-risk communities, including participation of most vulnerable groups.
- Recognise the right of at-risk women, men and children to engage in decision-making and planning processes - participation must be clearly defined and explicitly recognised through policy, legal and institutional provisions.
- Undertake participatory local hazard-vulnerability assessments and associated risk mapping as strategic entry points to raising critical awareness and understanding of risk and to building relationships among different actors. Set specific time-bound targets with clear responsibilities and delegated authority in support of these assessments. Teach children to do this too, using schools as important local centres for community action for disaster risk reduction.
- *Use local disaster risk knowledge to inform local programming and action planning of principal development sectors; risk considerations should become routine in all development investment planning and programming.*
- *Decentralise authority and resources to appropriate administrative levels in support of local multi-stakeholder partnerships (including equitable representation from most vulnerable); to coordinate and manage risk reduction, poverty alleviation, development and climate adaptation policy execution.*
- Develop innovative financial strategies for supporting local level initiatives and partnerships, including direct local level access to disaster risk reduction and climate adaptation trust funds and technical resources.
- Extend VFL’s geographical coverage and modify indicator metrics to incorporate climate adaptation characteristics ahead of Global Platform-DRR 2011 as a means to independently audit disaster risk and climate adaptation progress.
- Maximise the potential of existing traditional social networks and investigate potential of social networking and internet-based communications innovations as approaches to communicating and sharing information, raising critical awareness, building broad-based constituencies and coalitions and mobilising social demand for DRR.
- Invest in networks at all levels that improve the exchange of good practice and learning, promote civil society harmonisation and coordination, and foster dialogue and collaboration between state and non-state actors.

- Carry out reform of the humanitarian response system, making it one committed to engaging with and strengthening local and national preparedness and response / recovery capacities, and one that bases programme interventions on assessments of people's own perceived priority needs in relation to their capacities and vulnerabilities.

Of particular interest are recommendations 5 and 6 that call for decentralized authority and innovative financial strategies for disaster risk reduction at the local level. The grant systems referred to in section 2.2.3 can be an effective way of meeting these recommendations. Grants are not only targeted at local governments. Communities can also be recipients. However in the latter case there are advantages to local government involvement to ensure that community scale DRR initiatives are complemented by concomitant local government investments.

A good example of how this can work is provided by Albay Province in the Phillipines.[13] There are two factors that have made this possible. Firstly the high level of public awareness on the issue, resulting in citizen voice for action and secondly the decentralised responsibilities and concomitant discretionary resources (fiscal grants) thus providing scope for action.

In conclusion, effective DRR at the local level, and the implementation of the recommendations of the 2009 Views from the frontline report, will require the configuration of local financing mechanisms as we have illustrated in earlier sections. This is a complex process – whilst governments have enacted policies and plans for DRR, making this work at the local level requires structural changes that not all countries are in a position to implement immediately. Nevertheless we have illustrated the areas that will need to be addressed and DRR practitioners can use this framework to begin to explore these possibilities.

3. Applying the analysis – the case of Indonesia

In this final section we shall use the case of Indonesia to demonstrate how our analytical framework can be applied to highlight the scope for reforms that can increase the effective financing of DRR. Indonesia has a long track record of natural disasters, covers a large territory and spans 3 time zones, with a population of 240m it is the worlds fourth most populated country. Indonesia is made up of 17,500 mainly small islands but also includes large land masses such as the island of Sumatra that is the 6th largest on the planet. The country straddles an active seismic belt – resulting in regular earthquakes and volcanic eruptions each year from its 150 active volcanoes. There is a well publicised sequence of more serious disasters that includes the Indian Ocean Tsunami (2004), the Jogyakarta earthquake (2006), the Padang Earthquake (2009) and Mount Merapi (2010). There have also been controversial man made disasters such as the Sidoarjo mud flow (2007) allegedly caused by drilling in seismically sensitive areas.

Clearly it is not possible to present the full picture of DRR financing in such a large, complex and disaster prone nation. However we shall attempt to apply the analytical framework to shed illustrate how it can illuminate some key DRR issues in Indonesia.

[13] Presentation by Governor Joey Salceda at roundtable on Local Governance and Climate Change – delivering on the ground. A Focus Event to the Asia-Pacific Climate Change Adaptation Forum, 22 October, Bangkok, Thailand

3.1 The framework

3.1.1 Indonesia: DRR in the formal allocation process

DRR financing is present at all levels of the matrix, as shown in table 5. Government has created a national disaster management agency (BNPB) with its own recurrent and project funding. However this agency, and its provincial counterparts, have a largely coordinating function. There are two types of plan associated with this agency – its own departmental *responsibility and resource* plan linked to its budget and the wider National Action Plan for Disaster Risk Reduction which has elements of a *coordinating* plan and elements of a *regulatory* plan under the Disaster Management law. There is also a looser multi stakeholder National Platform for Disaster Risk Reduction that produces a wider *coordinating* plan. Over US400m will be allocated in 2011 to fund DRR. There is a focus on education and therefore this is likely to be allocated through functional or programme channels (GoI, 2010).

Table 5: Indonesia - Matrix of formal resource allocation process

Resource allocation driver / budget classifier	Resource recipient	Budget type		Notes
		Recurrent	Project / Development / Programme	
Departmental	Department	Creation of BNPB – National Disaster Management Agency	Safer Communities through Disaster Risk Reduction project – working with BNPB and BAPPENAS	New institution BNPB established
Functional	Department	Guidelines and regulation on mainstreaming DRR USD 400m allocated in 2011	Some department projects (especially in Education) may be established following USD 400m allocation	National and provincial plans attempt to guide DRR mainstreaming
Project / Programme	Project / Programme management unit	Recurrent funded staff could be allocated to oversight or supervision functions	Window for World Bank finance to mainstream DRR through line agencies	Often sub-contracted to private sector

3.1.2 Indonesia: Resource flows to DRR as a consequence of the regulatory environment

The regulatory environment is in place with encouragement to integrate DRR in local plans. However there is insufficient evidence of the impact of these regulations on central government behaviour and there is little evidence of an increased spending on DRR outside of the specific state resources allocated. In addition, events such as the Sidoarjo mud disaster illustrate the complex web of interests that become involved when there are attempts to enforce regulations or activate legal sanctions of redress. The picture is mixed across the country with voice playing a large role (sometimes positive and sometimes negative) in defining the scope for regulatory action. The national platform for DRR (PLANAS) is working to increase the effectiveness of DRR regulations and policies. (UNDP, 2009)

3.1.3 Indonesia: DRR and sub-national public expenditure management

In 1999 Indonesia enacted substantial decentralisation legislation that devolves to district authorities many of the regulatory and implementation powers associated with mainstream

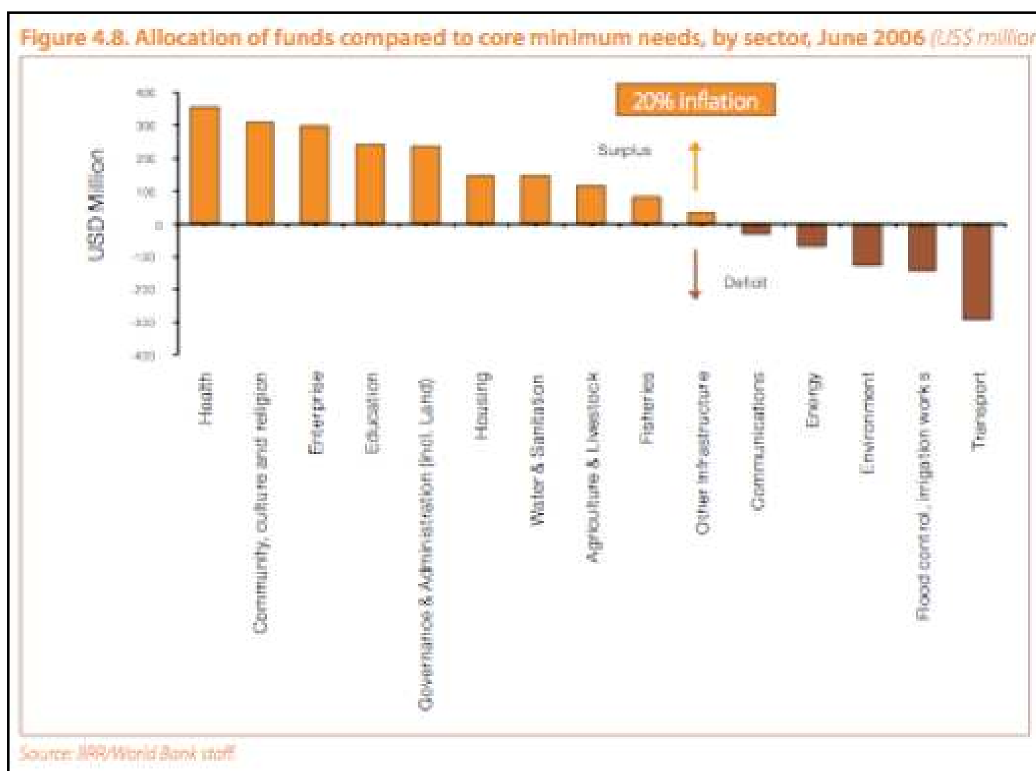
DRR (water supply, drainage, construction, land use zoning etc). There are provincial agencies for DRR that play a coordinating but not implementing role and the provincial governor has executive powers delegated from the President. De-concentrated agencies, such as the ministry of forestry also play a role at the local level. Even outside the context of DRR, there has been widespread comment on the overlapping nature of roles and responsibilities and how this can reduce effective local governance. (USAID_DRSP, 2009)

Table 5: Indonesia - DRR and decentralisation

Scope of decentralisation	Nature of decentralisation at district level		
	Devolution	Delegation	De-concentration
Political	X		
Fiscal	X		
Administrative	X		

Whilst the regulatory environment encourages DRR mainstreaming some recent evidence suggests that local and central agencies still find it difficult to spend on DRR related activities during the reconstruction after the Indian Ocean Tsunami. (see figure 2).

Figure 2: Indonesia – Reduction in funding for DRR related activities



Source: (World_Bank, 2006)

The figure illustrates the expenditure according to key functional classifiers for Aceh province for the reconstruction period following the Indian Ocean Tsunami. Functions such as Health, Community culture and religion, and Enterprise show increased real expenditure whilst DRR sensitive functions such as Flood control, irrigation works and Environment show

a marked decrease. This may be a result of the increased influence of local voice following the disaster – and the prevalence of voices that favour areas other than DRR. The figure also provides an illustration of how regulatory instruments and coordinating plans do not always influence local resource allocation. The use of earmarked fiscal grants, performance measures or top up grants may be an appropriate policy instrument in this scenario.

3.1.4 Indonesia: The role of the citizen and the community in (public) DRR financing

The sub section above suggests that (local) voice is not always conducive to DRR. PLANAS works with community players to foster greater awareness of DRR issues. We can use the voice matrix below to establish the relative power of DRR interests in relation to other aspects of voice in the resource allocation process.

Table 6: Indonesia - Voice and DRR financing

Scope of decentralisation	Exercise of *voice* in local governance				
	Elected representation	Bureaucratic action	Interest group lobby	Social action	Passive consultation
Political			Role for DRR community groups	Role for DRR community groups	
Fiscal	Approve district budgets				
Administrative		Compile district budgets			DRR related community groups input planning process

There is a wealth of experience in community DDR activities in Indonesia, ranging from programmes in large cities like Surabaya to rural programmes. DRR in Indonesia embraces academic networks, community groups and social action networks. The evidence shows that these can be an influence on DRR financing, but that there are strong counter-currents. In addition, these community DRR activities are largely financed from external projects or programmes, raising question marks about their sustainablility.

3.2 Indonesia: Lessons learnt

A summary lesson from our brief look at Indonesia is the distinction between strong policy, institutions and a national platform on the one hand and the actual resource allocation outcomes on the other. Indonesia is to be commended in setting up a national agency, a national platform and committing over $400m (including DRR education) in 2011. At face value these actions demonstrate progress in HFA PFA 1. Yet we have argued in this paper that effective DRR often consists of existing departments performing their existing responsibilities in a different way. In Indonesia this would largely involve actions by provincial and above all district departments. Central coordinating and regulatory plans exist and ministries will receive some of the resources allocated. However in the absence of a fiscal grant system that explicitly puts DRR on the agenda of local governments it is unlikely to achieve the mainstreaming required for effective measures unless local voice is sufficiently strong.

References:

Abdelmalak, A., et al. (2006). Investigation of the Performance of the New Orleans Flood Protection System in Hurricane Katrina on August 29, 2005., Chapter 12, pp2-10.

Batley, R., Bjornestad, L., & Cumbi, A. (2005). Joint Evaluation of General Budget Support 1994 - 2004 - Mozambique Country Report (Draft).

Fozzard, A. (2001). The Basic Budgeting Problem: Theoretical Approaches to Resource Allocation in the Public Sector and their Application - A guide for practitioners.

Global_Network. (2009). Views from the Frontline: A local perspective of progress towards implementation of the Hyogo Framework for Action.

GoI (2010). *Draft Report*. Proceedings from 5th DRR Convergence Workshop, Jakarta.

Hansen, R. D. (undated). Waste and Wastewater Systems in Imperial Rome. http://www.waterhistory.org/histories/rome/rome.pdf.

Hirschman, A. O. (1970). *Exit, Voice and Loyalty: Responses to the Decline in Firms, Organisations, States.* Harvard University Press.

Hodges, T., & Tibana, R. (2004). What drives the budget process in Mozambique: An analysis of the institutional setting and key actors.

Jackson, D. (2004a). *Descentralização, Planeamento e Sistema Orçamental em Moçambique.* Estoril: Principia.

Jackson, D. (2010a). *Congress Summary*. Proceedings from Resilient Cities 2010: 1st World Congress on Cities and Adaptation to Climate Change, Bonn.

Jackson, D. (2010b). *The role of local government in post-conflict environments*. Proceedings from State of the Art of Local Governance - Challenges for the next decade, Visby.

Jackson, D. (2009). *Local Government Expenditure and the Environoment*. Proceedings from Lesson Learning Workshop: Local Government's role in environment, natural resource management and climate change, Bangkok.

Jackson, D. (2004b). A Planning Law for Mozambique - Discussion Paper.

Jacobs, D., Hélis, J.-L., & Bouley, D. (2008). Budget Classification: Public Financial Management Technical Guidance Note.

Kamal, K. (2010). Literature Review.

Manor, J. (1998). *The Political Economy of Democratic Decentralisation.* Washington: World Bank.

Margolis, Milton, Barro, Stephen. (1967). The Space Program. In D. Novick (Ed.), *Program budgeting; program analysis and federal budget* (pp. Page 120 - 146). Harvard University Press.

Musgrave, R. (1959). *The Theory of Public Finance.* New York: McGraw-Hill.

Wildavsky, N. C. a. A. (1974). *Planning and Budgeting in Poor Countries.* New York: John Wiley and Sons.

Samuelson, P. A. (1954). The Pure Theory of Public Expenditure'. *Review of Economics and Statistics*, *36*(4), 387-389.

Satterthwaite, D. (2008). *Climate change and urbanization: effects and implications for urban governance*. Proceedings from United Nations Expert Group Meeting on Population Distribution, Urbanization, Internal Migration and Development., New York.

United Nations and World Bank. (2010). Natural Hazards and Unnatural Disasters.

UNDP. (2004a). Reducing Disaster Risk: A Challenge for Development.

UNDP. (2004b). Strategy Note on Governance for Human Development.
UNDP. (2009). Lessons Learned: Indonesia's Partnership for Disaster Risk Reduction.
UNISDR. (2005). Hyogo Framework For Action.
UNISDR. (2009). Global Assessment Report on Disaster Risk Reduction 2009. *Chapter 5*.
UNPAN. (2003). World Public Sector Report.
USAID_DRSP. (2009). Decentralization 2009: Stock Taking on Indonesia's Recent Decentralization Reforms, Main Report.
World_Bank. (2006). Aceh Public Expenditure Analysis: Spending for reconstruction and poverty reduction.

5. Annexes

Annex 1: UNISDR Terminology on Disaster Risk Reduction (2009)