

Bengkulu City – DRR Action Plan Workshop 14 & 15 April 2015



Participants Bengkulu City Action Plan Workshop

As part of the Strengthening Indonesian Resilience: Reducing Risk from Disasters ([StIRRRD](#)) program, a two-day, Disaster Risk Reduction (DRR) [Action Plan workshop](#) was held in Bengkulu City, 14 and 15 April 2015.

About 45 participants from the district government agencies, including representatives from Bappeda (Planning), Spatial Planning, Transport, Sosial Public works, Health Education and staff of the District and Provincial BPBD attended the workshop. The Red Cross, PKPU (National Humanitarian Organisation), PUPA (Women and Children Education and Empowerment Centre) and Layak (Family and Children Service Foundation) were four NGO's that attended. (see [List of Participants](#), Appendix 1). Thirteen women attended.

The StIRRRD team, comprising staff from University of Gadjah Mada (Indonesia), GNS Science and Greater Wellington (New Zealand) and University of Bengkulu (UNIB), facilitated the workshop. Simultaneous translation from Bahasa Indonesian to English and vice-versa was provided.

The purpose of the workshop is to draft a DRR-specific, collaborative Action Plan, formulated by the district government representatives, with input from the University of Bengkulu (UNIB) and NGO's. The development of the plan utilises components of the Yonmenkaigi System Method (YSM - UGM, 2013). The translated results from the [YSM discussion](#) are included as Appendix 4 and a draft Action Plan will be developed from this and through further refinement via a study visit to New Zealand and a second follow up workshop, before being presented to the local parliament for budget approval.

The workshop included an opening ceremony, and a mixture of presentations, discussion sessions, group exercises and a half day field trip to see the district hazard and risk issues. The [workshop agenda](#) is given as Appendix 2. Two workshop booklets that contained the [presentations](#) and short related [papers](#) were provided and are included as Appendix 3. The participants completed a [workshop evaluation survey, results](#) of which are given in Appendix 5.

A Women's Focus group discussion on DRR was held on the 16 April at the BPBD (District Emergency Management) office and the [transcript](#) of that discussion is provided as Appendix 6.

The StIRRRD team and the head of the BPBD met the Governor of Bengkulu Province, and a MoU between UGM, University of Bengkulu (UNIB) and the Province was signed. The team also met representatives of the Province and City parliaments responsible for Disaster Risk Management, to engender support for the Action plan initiative (Komisi 3).



Signing of the MoU between UGM, UNIB and Bengkulu Province at the Governor's office



StIRRRD Team meeting with the Provincial parliamentary commission responsible for DRM



StIRRRD team meeting with the Bengkulu City parliamentary commission responsible for DRM

1.0 WORKSHOP DAY 1 – 14 APRIL 2015

1.1 Opening ceremony

The workshop was officially opened by The Deputy Secretary to the Mayor of Bengkulu City.



Deputy Secretary to the Mayor, Bengkulu City (middle) flanked by Phil Glassey (left) and Faisal Fathani (right) from the StIRRRD team.

Bu Pemerintah Pusat (BNPB - National Agency for Disaster Management) gave an opening address. She mentioned the Sendai framework and how Indonesian DRR policy aligned with it and emphasised the need to have consistency in improving the local government capacity. There is a master plan being developed for tsunami, earthquakes, landslides and volcanics – this is an extension of the mid-term plan.



Deputy Secretary to the Mayor (Walikota), Bengkulu City (left) and Pemerintah Pusat from BNPB

1.2 Setting the Hazardscape

Ibu Mulyani, Head of the Bengkulu City Agency for Disaster Management (BPDB) restated the risks in Bengkulu City from earthquake, tsunami, flood, landslide, extreme weather, coastal erosion, fire, epidemic and drought. Hazards can be divided into Geology/Hydrology/Social. A Risk assessment has been done:

- High risk – extreme weather, flood, landslide, coastal erosion
- Medium risk – earthquake and tsunami
- Low risk – epidemic and disease



Mulyani Head of BPBD, Bengkulu City

1.2.1 Political Support and funding

Ibu Erna Sari Dewi, Head of local parliament (DPRD) for Bengkulu City confirmed the parliaments support for the DRR initiatives. Initiatives needed to have clearly stated outcomes. She stated that DRR is not just the BPBD's responsibility and that there was overlap with other agencies which needed to support the BPBD with budget, socialisation, planning etc. Vulnerable groups needed to be catered for and training needs to be passed on to others for continuity.



Erna Sari Dewi, head of DPRD, Bengkulu City (centre), flanked by Esti Anantasari, UGM (left) and Ir. Mulyani (right)

1.3 University DRR programmes

[Dr Muhammad Farid](#), University of Bengkulu Centre for Disaster Mitigation, outlined the assets and people at risk from hazards and outlined the research programme of the school, which includes mapping, building design, and earthquake. Tsunami inundation predictions of 30 m run-up would affect 27% of the city, damage 662.4 B Rupiah (~USD\$50 M) of assets and affect about 71000 people.

1.4 The role of local wisdom in DRR

Dr Esti Anantasari (UGM) gave a short presentation on the value and role of local wisdom in DRR citing examples from the Community Resilience and Economic Development (CaRED) programme being implemented by UGM in underprivileged/underdeveloped small island communities.

1.5 Discussion

The discussion that followed included aspects of socialisation, how to get research and hazard knowledge into policy and regulations, social unrest, the lack of traditional lightweight bamboo constructed housing (Bidi) that are resilient to earthquake, and the utilisation of student community service to socialise issues in villages.

1.6 DRR Technical Presentations

A series of presentations, targeted at issues identified in the Introductory Visit held in November 2014, were given by the StIRRRD team. [Presentations](#) and related [papers](#) that were distributed at the workshop are given in Appendix 3. They included:

[Earthquake Hazards](#) – Phaedra Upton, GNS Science

[Tsunami](#) - Dr Adam Pamudji, UGM

[Building design and infrastructure](#) - Prof Iman Satyarno, UGM

[Hazard maps and GIS](#) - Dr Wahyu Wilopo, UGM

[Social and cultural aspects of DRR](#) – Dr Esti Anantasari UGM

[Challenges for local government in implementing DRR](#) – Phil Glassey, GNS Science

[Managing Flood hazards](#) - James Flanagan, GWRC

[Landslide mitigation and early warning systems](#) - Dr Faisal Fathani, UGM

1.6.1 Discussion

Key points from the discussion that followed include:

- Living in harmony with disasters, they will happen therefore local knowledge and understanding is important.
- Landslide potential not understood by local people, especially when inappropriate landuse (deforestation to plantations for example) increases the likelihood of landsliding, erosion and flooding and fire.
- Managing floods in NZ requires planning and community engagement and communication, then you can mitigate much of the risk, which reduces the impacts cost. People in NZ don't tolerate flooding and thus Government will pay for flood mitigation
- Flooding doesn't cause many deaths but does cause lose of property value – avoid flood prone areas for new developments etc.

1.7 SMG comparative risk assessment

A group exercise ranked the risks of Bengkulu City using a Seriousness, Manageability and Growth, [\(SMG\) method](#) developed in New Zealand, which is used by local authorities to rank hazards in terms of risk. This is a qualitative method and considers the impacts of the hazard in terms of deaths and injuries, damage to infrastructure, economy and the environment. The ability of the local emergency response unit to deal with the hazard (Manageability) and whether there are secondary or on-going issues related to hazard (Growth, e.g. Climate change, disease) are also assessed. The [SMG exercise and method](#) is given in the workshop booklets (Appendix 3).



Participants work on the SMG Analysis

The SMG exercise ranked tsunami as the greatest risk followed by earthquake (Table 1). Surprisingly landslide rated higher than flood, possibly because there had been recent landslide casualties associated with a flood event.

Table 1: Summary of the SMG risk assessment

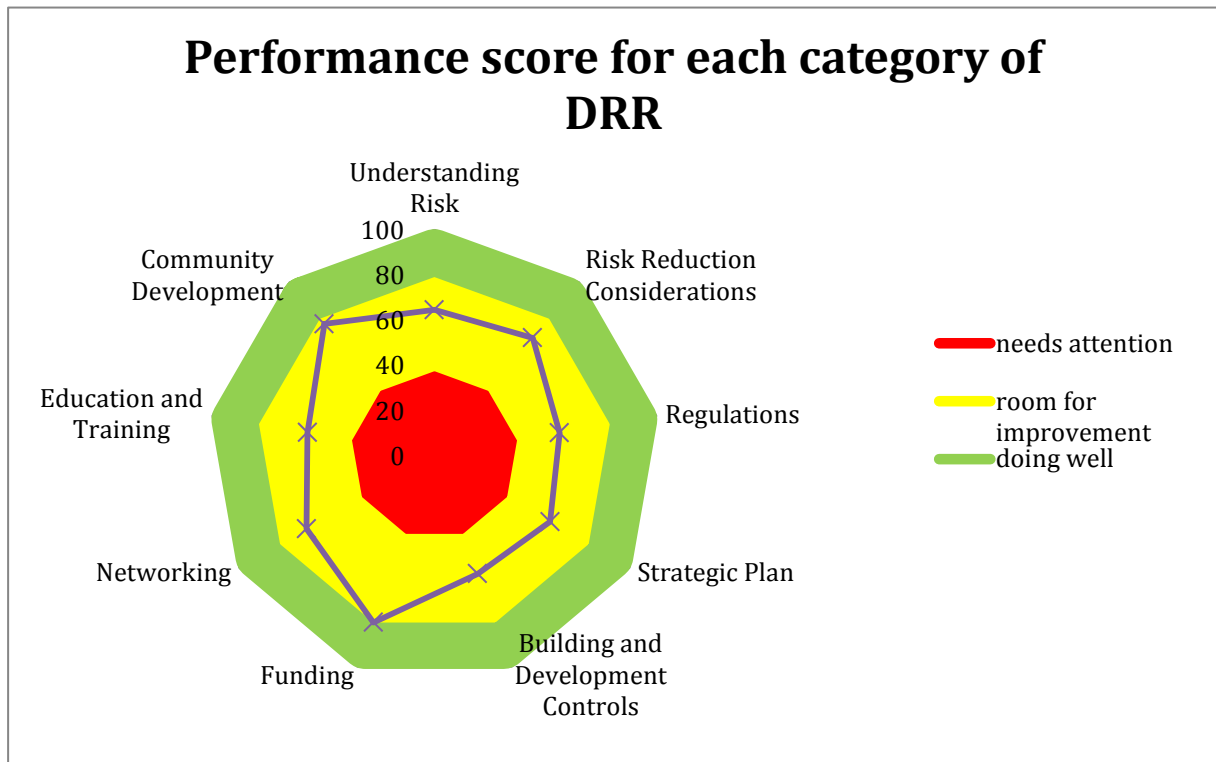
Hazard	Seriousness					Manageability					Growth	TOTAL
	Social	Built	Economic	Natural	Subtotal	Reduction	Preparedness	Response	Recovery	Subtotal	Subtotal	
TSUNAMI	5	4	5	4	18	4	3	2	3	12	5	35
EARTHQUAKE	4	3	4	3	14	2	1	1	3	7	4	25
LANDSLIDE	1	1	1	1	4	4	4	4	4	16	1	21
FLOOD	1	1	1	1	4	3	3	2	1	9	5	18

1.8 DRR - Self Assessment Tool Survey

As part of the effectiveness of the implementation of the StIRRRD programme in each District over the next few years, each of the participants completed a Local Government - Self Assessment Tool (LG-SAT) survey, to assess the level of risk reduction activity (as opposed to preparedness, response and recovery). The survey is adapted from a tool developed by the Ministry of Civil Defence and Emergency Management, New Zealand for the Pacific Islands.

The following radar diagram summarises the strengths and weaknesses of the DRR Capacity within Bengkulu City based on the survey. The survey determined that there seemed to be adequate funding and good community development in Bengkulu. All other areas require some improvement

and none needed immediate attention. The Action Plan that is developed should have actions to address the weaknesses identified.



Summary of the DRR environment in Bengkulu City based on a DRR Local Government – Self Assessment Tool Survey

2.0 WORKSHOP DAY 2 – 15 APRIL 2015

2.1 Field Visit – Contextualising the issues

A half day field trip organised by the city BPBD was an opportunity to contextual the hazard issues discussed the previous day. A summary of the field visit is given below

2.1.1 Stop 1 – River Estuarine erosion/sedimentation

Increased sediment in the river, derived from upstream mining outside the city boundaries, has changed the course of the river and is causing erosion along the true right bank. In addition, local fishermen are illegally mining the sediment deposits on the estuary side of the river for coal which has made its way down the river system.



Erosion is occurring on the near bank of this river that is being pushed inland by excess sedimentation accumulating on the sand bar in the background.

2.1.2 Stop 2 -Sea wall Protection

A low seawall has been constructed along part of the coast to counter erosion. It seems to have been successful and the beach appears to be aggrading (possibly due to other reasons not related to the wall – e.g. additional sediment deposition – see stop 1). An interesting consequence is more business and infrastructure has been developed on low lying land behind the wall which is prone to tsunami inundation.



Broad sand bar forming in front of a sea wall (left), behind which new infrastructure is being developed (below).



2.1.3 Stop 3 Low lying area – badly damaged in 2007 earthquake, and prone to flooding



Building damaged in 2007 earthquake





2.1.4 Stop 4: Flood control Gates

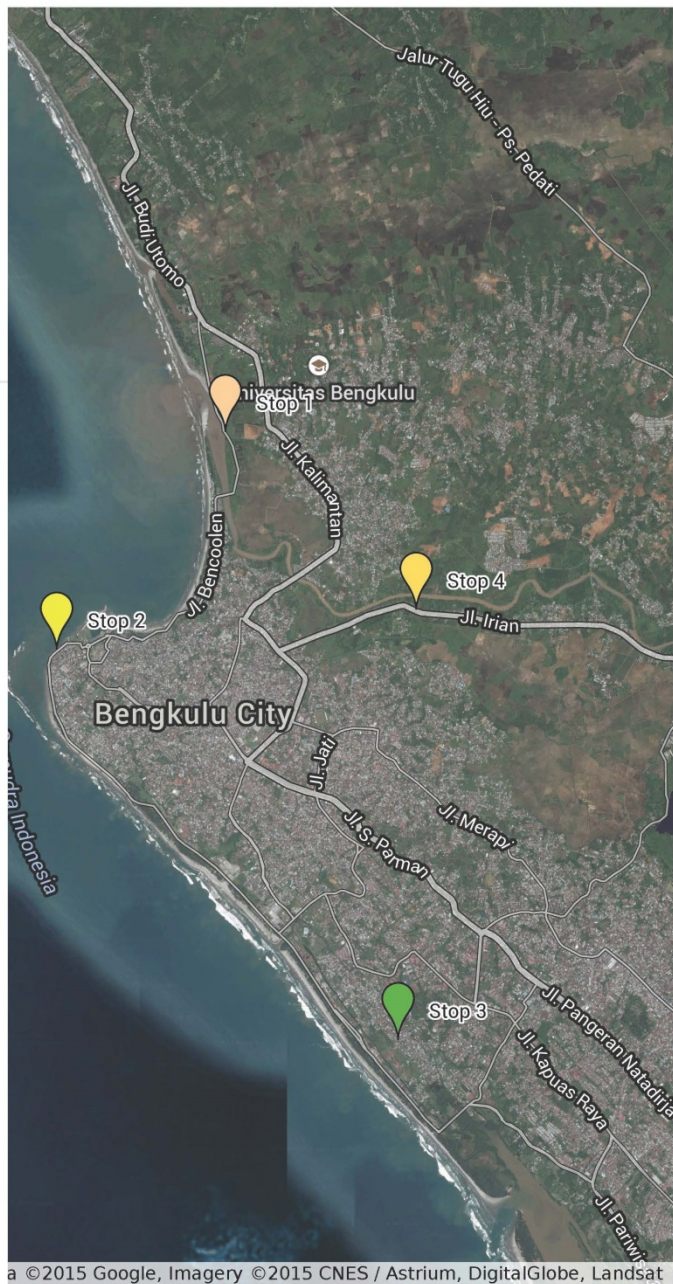
At this location the road has been raised along a stretch of several kilometres, which has at least allowed transport to continue during periods of flood. Some houses have been built on columns or raised to be at street height. Many houses however are still at the old road level and still prone to flooding especially on the downstream side of the gates where this tributary meets the River



Bengkulu

Bengkulu AP Field Trip

-  Flood control gates
-  Low Lying area badly affected by 2007 earthquake and prone to flooding
-  Seawall
-  Sedimentation and Erosion



2.2 Action Plan development using Yonmenkaigi (YSM)

The [Yonmenkaigi System Method](#) (Universitas Gadjah Mada, 2013) is a tool to develop a collaborative Action Plan among many stakeholders. It is structured around 4 aspects of DRR; human resources, organisations and relationships, activities, and finances. Plans and ideas were placed on a timeline using post-it notes, e.g., activities that can be achieved in 6 months, 1 year and 2 years. Once the chart has been populated, the sides debated with each other to refine the plans with discussion resulting in moving of actions, sometimes swapped from one aspect to another or combined. Finally a spokesperson presented the chart to the whole room for further debate and refinement.

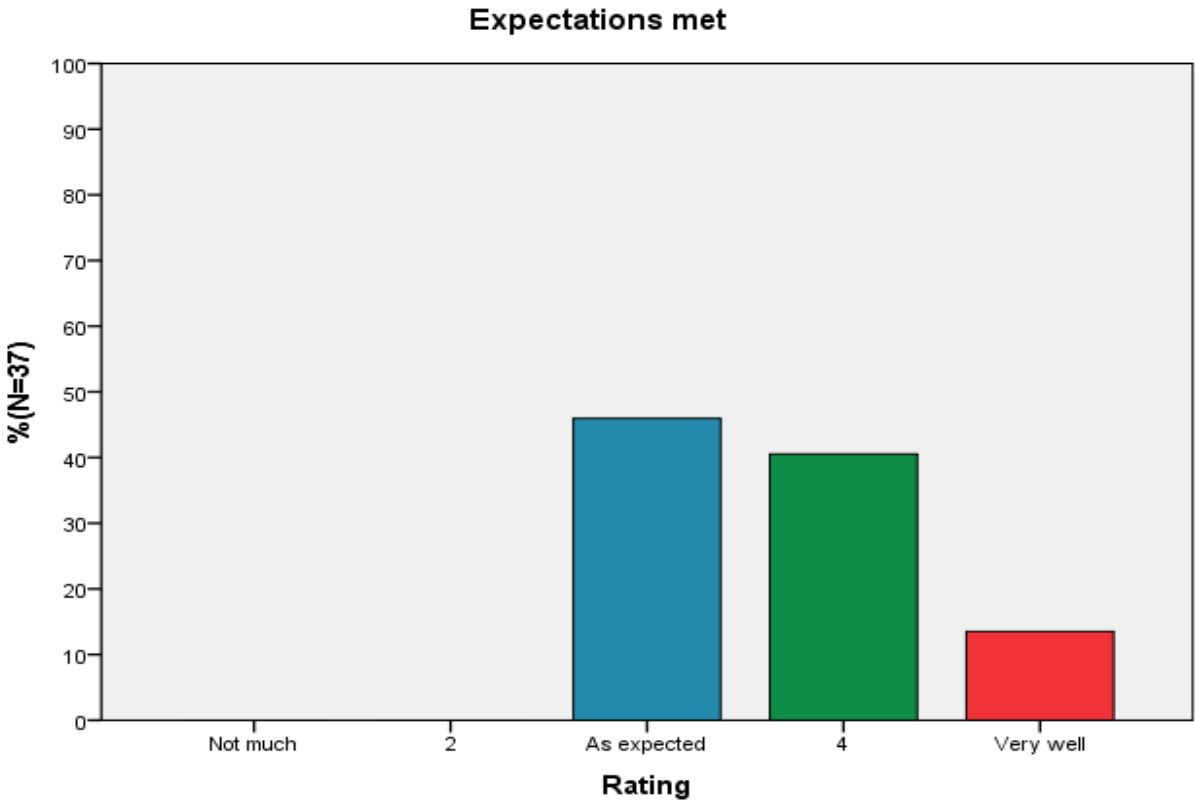
These actions have been collated (see [appendix 4](#)) and will be used to form the basis of an Action Plan. The draft plans will be revised during and following a New Zealand Comparative study visit in June 2015, before being finalised in a workshop and presented to the district parliament.



Participants work through the YSM method to develop draft Action Plan

3.0 KEY OBSERVATIONS

- There was support for DRR and the Activity from the head of parliament who engaged in the first part of the workshop. Both City and province Parliamentary Commissions responsible for DRR were available to meet with us and supported the initiative. However, both indicated that a good Action Plan would be required to get an increase in Budget.
- There was a good turnout of various local government, district and provincial, university and NGO's at the workshop.
- There seems to be significant DRR initiatives happening in Bengkulu City, however they seem a little uncoordinated and disparate.
- There was keenness to deliver socialisation initiatives but limited detail on what this means and what socialisation looks like.
- In general the participants considered that the workshop met or exceeded expectations.



4.0 REFERENCE:

Univeristas Gadjah Mada 2013: *The Guidebook of Yonmenkaigi System Method. Buku Panduan Yonmenkaigi*. Universitas Gadjah Mada – Community Development Team, Civil and Environmental Engineering Department. 59 p.

Appendix 1: [List of Participants](#)

Appendix 2: [Workshop agenda](#)

Appendix 3: Workshop [presentations](#) and [papers](#)

Appendix 4: [Yonmenkaigi Results](#)

Appendix 5: [Post Workshop Evaluation](#)

Appendix 6: [Transcript of the Focus Discussion Group](#)