

## Agam District – DRR Action Plan Workshop, Lubuk Basung 22 & 23 February 2016



Participants Agam Action Plan Workshop at North Tiku Beach (photo by G Maylda Pratama).

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 for the Agam District in Lubuk Basung, 22 and 23 February 2016.

About 67 participants from the district government agencies and NGO's attended the workshop (see [List of Participants, Appendix 1](#)). Interestingly, 14 out of 16 sub-district head, or their representatives, participated in the workshop. There were representatives from a few community disaster preparedness groups as well as NGO's working in the sub-districts. From the Government sector, Transportation, Public Works (Spatial Planning), Health, Education, Fisheries and Marine, Environmental Management Agency, Forestry and Planned Parenthood and Women Empowerment Agency were present, as well as BPBD staff. Seventeen women attended the workshop.

The StIRRRD team, comprising staff from University of Gadjah Mada (Indonesia), GNS Science and NIWA (National Institute of Water and Atmosphere - New Zealand), facilitated the workshop, along with Andalas University (UNAND) from Padang, West Sumatra. Simultaneous translation from Bahasa Indonesia to English and vice-versa was provided.

The purpose of the workshop was to draft a DRR-specific, collaborative Action Plan, formulated by the district government representatives, with input from Andalas University and NGO's. The development of the plan utilises components of the [Yonmenkagai System Method](#) (UGM, 2013). The translated results from the [YSM discussion](#) are included as Appendix 4 and a draft Action Plan will be developed from this. Further refinement will be achieved during a study visit to New Zealand along with a finalisation workshop, before being presented to the local parliament for budget approval.

The Action Plan 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 post-[workshop evaluation](#) survey, the results of which are given as Appendix 5.

A Women's Focus group discussion on DRR was held on the morning of 23 February, at the same time as the field visit for logistical reasons. The [transcript](#) of that discussion is provided as Appendix 6.

Members of the StIRRRD team, along with the head of the BPBD and Dr Tesri from UNAND met with Agam Parliament members from the commission (Komisi 3) responsible for Development and Disaster Management, to engender support for the StIRRRD initiative.



Members of the StIRRRD team and Agam BPBD meet with the Agam District Parliamentary Commission (Komisi 3) responsible for development and disaster management.

## 1.0 WORKSHOP DAY 1 – 22 FEBRUARY 2016



Indra Catri, Bupati, Agam regency (left) opens the workshop. At the table are Phil Glassey (Left), Wahyu Wilopo, and Bambang, Head of the BPBD (Right). (photo by G Maylda Pratama)

### 1.1 Opening ceremony

The workshop was officially opened by the head of the District Indra Catri. The charismatic nature and enthusiasm of Pak Catri demonstrated his support for DRR initiatives. He is happy to be on posters to advertise progress and he has already fronted a [disaster music video](#). He indicated that there was no money for large equipment meaning that following a disaster, Agam, like most districts/regencies will find it difficult to get back on their feet. He stressed the importance of securing food supplies (especially home-grown) to enhance resilience, and to be able to help neighbouring districts in times of crisis.

Dr Wahyu Wilopo spoke on behalf of UGM and Phil Glassey spoke about the New Zealand involvement in DRR and in Indonesia.



Agam District head (bupati) Indra Catri exchanges gifts with Dr Wahyu Wilopo (UGM, StIRRRD) as part of the opening ceremony. Bambang the BPBD Head (far right) and Phil Glassey (far left) from the StIRRRD team watch on

## 1.2 Setting the Hazardscape

Pak Bambang, Agam BPBD, presented an overview of the hazards and risks in Agam, provided an overview of some of the challenges they face in the district initiatives and issues of the BPBD. There was a good level of detail in his presentation including hazards by sub-district which vary greatly across the district. Highest perceived threats are from flood and landslides. Large landslides have occurred on the steep slopes near Lake Maninjau and these along with debris flows affect roads and other infrastructure. There has been some mitigation of coastal erosion using hard structures. They also have 3 active volcanoes in the district.



Recent landslide that closed a road and destroyed a house in the Agam District just outside of Bukittinggi.

He outlined some of the initiatives in the district. For example, they have formed Disaster Ready taskforces for tsunami, earthquake and volcanic hazards. The tsunami hazard has been socialised to the community. A volcanic hazard map and evacuation routes have been prepared in conjunction with affected sub-districts and community. They are attempting to build resilient sub-districts and have a MoU with local NGOs to provide community-based preparedness programmes. Regulations are being drafted and a DRR Forum initiated but cannot be formalised until the regulations are endorsed by the District Parliament. They are also prepared to help neighbouring districts in emergencies.

Dr Arry Retnowati presented the issues raised at the introductory meeting held in April 2015.

Dr Geoff Kilgour presented a draft [vulnerability profile](#) of Agam. The BNPB Risk Index shows that Earthquake, Tsunami, and flood pose the greatest risk to Agam district.

### 1.3 University DRR programmes

[Dr Tesri](#) (right), from the Centre for Disaster Mitigation, Andalas University (UNAND), outlined the role of UNAND. He commented that the level of education of disasters is low, and is not in the curriculum. However at Andalas they include DRR in Student research and practical experience. He emphasised that a better relationship is needed between local-national governments, NGOs and Universities.

They also have an institute of disaster management, and DRR is included as a topic in major courses. Future initiatives might include research into early warning systems, evacuation shelters, and films on disasters. They also have plans for a tsunami studio producing scenarios.



Dr Tesri (UNAND) outlines the University's role in DRR (photo G Maylda Pratama).

#### 1.3.1 Discussion

JEMARI – Local NGO

Development planning process is in place at village level. BPBD have facilitated process. However, maps and documents do not have legal status.

Tanjung Mutiara (coastal sub-district)

Oxfam have been working with 2 villages. They are working with families, and increasing business sustainability through various programs. Installing a food bank, presumably in case of a disaster there will be a store of local foodstuffs. The locals would like structures and infrastructure around the food banks.

In one case, there was mention of tsunami evacuation routes, but there hadn't been any community engagement and so people didn't either know about them, or didn't know what to do in case of a tsunami. However there are no evacuation facilities.

### 1.4 SMG comparative risk assessment

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

The SMG exercise ranked (Table 1) tsunami as the greatest risk, despite only one (Tanjung Mutiara) out of 16 sub-districts is affected by Tsunami. Earthquake, flood and volcanic eruption were ranked with similar risk scores. Due to time constraints, the discussion of the results was short but it is possible that flood and landslide are considered higher risks because they occur annually and are prominent.



Participants work on the SMG Analysis

Table 1: SMG risk assessment scores

Hazard	Risk Priority for Action												Total	Average
	Seriousness					Manageability					Growth			
	Social	Built	Economic	Natural	Subtotal	Reduction	Preparedness	Response	Recovery	Subtotal	Subtotal			
VOLCANO ERUPTION	3	4	4	4	15	5	2	3	5	15	3	33	30	
	3	3	4	2	12	3	3	3	3	12	4	28		
	1	3	3	3	10	4	4	4	4	16	3	29		
	1	4	3	3	11	4	3	3	4	14	2	28		
TSUNAMI	5	5	3	4	17	4	3	4	3	14	4	35	34	
	5	5	4	4	18	4	3	5	3	15	4	37		
	5	5	3	3	16	2	3	4	3	12	4	32		
	4	4	4	4	16	4	4	4	4	16	1	33		
LANDSLIDE	3	3	4	5	15	4	4	3	3	14	4	33	30	
FLOOD	1	4	2	2	9	3	4	3	3	13	4	26		
LANDSLIDE/FLOOD	3	5	3	3	14	4	4	4	3	15	2	31		
FLOOD	3	4	3	2	13	3	3	3	3	12	5	30		
2009 EARTHQUAKE	4	4	3	2	13	3	1	2	3	9	3	25	30	
	3	3	3	3	12	3	3	4	3	13	3	28		
	5	3	3	4	15	3	3	4	3	13	4	32		
	3	4	3	3	13	4	4	4	5	17	4	34		

## 1.5 DRR Presentations

A series of presentations, targeted at issues identified in the Introductory Visit held in April 2015, were given by the StIRRRD team. [Presentations](#) and related [papers](#) that were distributed at the workshop are given in Appendix 3.

Phil Glassey (GNS Science) presented on the [challenges of implementing risk reduction](#) measures in local government and the various instruments that can be utilised including, risk analysis, land use planning, regulation and policy, Action Plans, early warning systems, education and partnerships, giving examples from New Zealand.

[Dr Fauzan](#) (UNAND) presented examples of good and poor building construction, emphasising which designs will withstand shaking and which will not. He also discussed earthquake retrofitting and provided examples from the region where he and his team at the university have been involved in. He showed that the damage sustained by a large Padang hotel during the 2009 earthquake caused the insurance company to write-off the structure. With some investigation and analysis, the engineers were able to retro-fit the hotel to a high standard and for significantly less than a new build. He used 3D engineering software to determine the weak points of the previous building, which was then used to ensure that the new structure was robust and able to withstand similar events.

Dr Kate Crowley (NIWA) gave a presentation on [flood management](#) using the Wanganui River and the Hutt Valley in NZ as examples. This presentation illustrated the need for a whole catchment approach, the need to engage with the community and ensuring that the risk and mitigation options are well understood, including that there will always be a residual risk associated with an event larger than what the mitigation initiatives can deal with.

Dr Crowley also presented on the lessons learnt from New Zealand and overseas regarding the understanding of [tsunami hazard](#), Early Warning Systems and Evacuation Planning. An emphasis was placed on end-to-end warning systems and the involvement of the community in determining their options and actions.

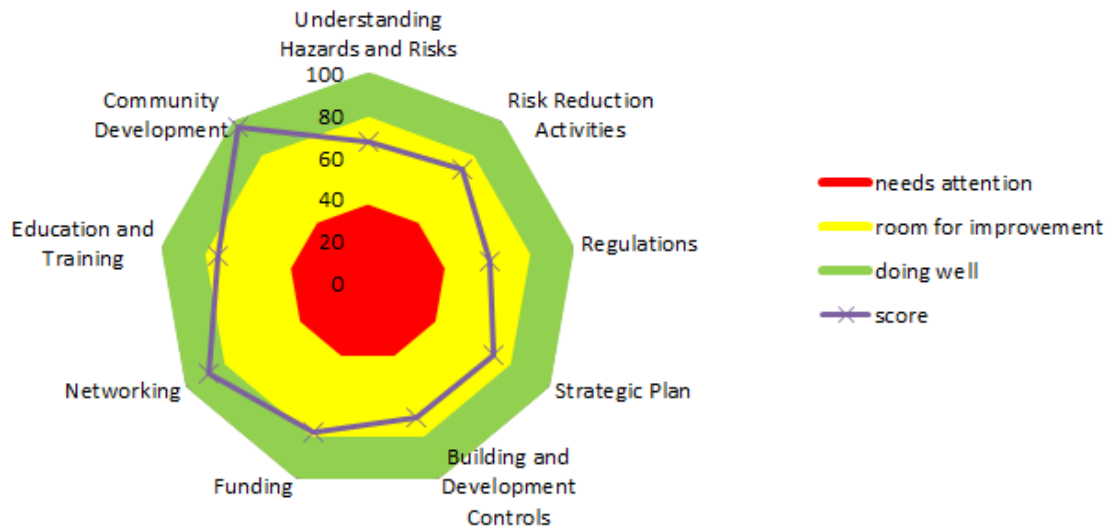
Dr Arry Retnowati (UGM) gave a presentation on [social and culture issues of community resilience](#). She encouraged participants to consider the influence of vulnerability and different cultural perspectives on DRR.

## 1.6 DRR – Local Government - Self Assessment Tool (LG-SAT) Survey

In order to assess the level of current risk reduction activity (as opposed to preparedness, response and recovery) of the District, and the impact of StIRRRD programme, all participants completed a Local Government - Self Assessment Tool (LG-SAT) survey. The survey is adapted from a tool developed by the Ministry of Civil Defence and Emergency Management, New Zealand for the Pacific Islands. The results are summarised in the radar diagram given below. The Assessment found that:

- Community Development was doing well in Agam. This was corroborated in the workshop by the focus on sub –district and community initiatives in conjunction with NGOs.
- Regulations needed the most improvement, and it was emphasised at the workshop that regulations were being drafted.
- Understanding Hazard and Risk and Risk Reduction activities need improving as well as development controls and Strategic Planning.

## Performance score for each category of DRR Agam, February 2016



Summary of the DRR environment in Agam 2015, based on a DRR Local Government – Self Assessment Tool Survey



## 2.0 WORKSHOP DAY 2 – 26 AUGUST 2015

### 2.1 Field Visit – Contextualising the issues

A half day field trip organised by the BPBD, was an opportunity to see an examples of the hazards discussed the previous day. Because of time constraints the field trip focussed on coastal erosion issues. Attempts to halt recent erosion include the placing of boulders along the foreshore. A village of about 105 households was moved inland following severe coastal erosion. The area they were relocated too is flood prone so houses are raised on stilts.



Erosion behind new erosion rockworks at North Tiku beach



Rockwork structures being built, North Tiku Beach (photo G Maylda Pratama)



Erosion remediation of tree planting and rock structures is being adopted at North Tiku Beach. Up to 105 households agreed to be relocated from this location due to erosion.



The re-located households were moved inland from North Tiku Beach to a flood prone area and have floor levels elevated above the potential flood levels.

## 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; human resources, organisations and relationships, activities, and finances and actions designed to achieve a stated DRR objective. Three groups worked through different DRR objectives (Appendix 4). 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 April 2016, before being finalised in a workshop and presented to the district parliament.

There was good questioning and discussion, especially about coordination between government departments, sub-districts, NGO's. One aspect that was missing from the Action Plan was the inclusion of University of Andalas in the activities.



a)



b)



c)



d)

Participants work through the YSM method to develop draft Action Plan. (Photos b) and d) by G Maylda Pratama)

### **3.0 KEY OBSERVATIONS**

- Good engagement from the head of district – he is passionate about DRR.
- There was a good turnout of 14/16 sub-district heads and good discussion with a high level of debate and energy. Generally there was good use of DRR language.
- While there seems to be engagement with sub-districts, and a delegation of responsibility to them, some villages have had significant input and others none.
- The DRR projects at sub-district level seemed a little isolated and mainly supported by the local NGO/CSO JEMARI. JEMARI are very popular and respected. There seems to be a ‘hand over’ of responsibility to local NGOs for delivery of DRR activities.
- There was keenness to deliver socialisation initiatives but limited detail on what this means and what socialisation looks like.
- Considerable concern over sustainability of activities – this was mainly from the gender focal discussion. They noted that projects that fail do not have long term funding or are not regularly reviewed and repeated. This was emphasised in the final discussion.
- Much discussion on coordination of activities across all sectors.
- There was intent to produce DM regulations, with a special task force being initiated by the Parliamentary Commission responsible for them. This will legalise proposed DRR Forum for example to allow collaboration.
- There was insufficient time for participants to discuss the detail – such as what has worked well and not in previous DRR projects, what are the main barriers in this region for DRR and the like.

#### **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](#)**