

Building District Natural Disaster Risk Reduction Profiles

Overview

A Natural Disaster Risk Reduction profile has been developed for each of the [StIRRRD¹ Districts](#) which describes the vulnerability of the natural, social and cultural, economic and built environments. They also describe the current capacity and capability of the local government to undertake risk reduction initiatives aimed at reducing vulnerability.

Initially, as much information as possible was collated into an extended District Profile and then distilled to a four-page booklet style summary (Figure 1).

These profiles provide an overview of the hazards that affect the districts, the risks they pose, and hopefully guide investment in reducing vulnerability and therefore reducing risk. The profiles were reviewed by the District Disaster Management Agencies (BPBD), and their feedback has been incorporated as appropriate.

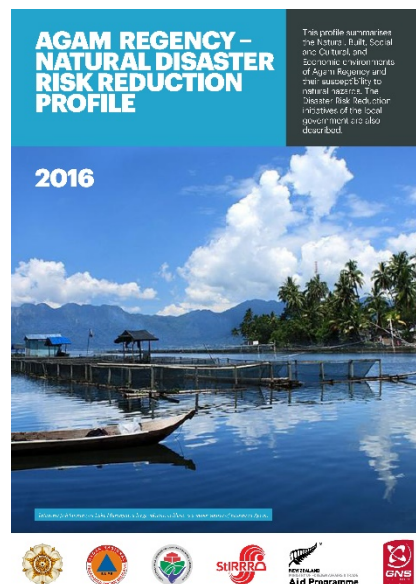


Figure 1: Cover of the four-page summary, booklet-style Natural Disaster Risk Reduction Profile for Agam Regency.

Background

The profiles are intended to provide a concise repository of information about each district to guide the development of Disaster Risk Reduction Action Plans for each of 8 districts in the StIRRRD project. [Extended Profiles](#) were produced in English, which were subsequently summarized into the shorter form summary profiles and translated into Bahasa Indonesian.

Purpose

The [summary profiles](#), available in both Bahasa Indonesia and English, can be used as information for local and provincial government, community organisations, NGOs, and the private sector. They provide background information for the private sector investing in a district and for potential funders of DRR projects. Eventually, as they are updated, they can be used to measure progress of, and investment in, DRR initiatives in the districts.

¹ Strengthened Indonesian Resilience: Reducing Risk from Disasters – NZ AID funded DRR project, working with local government in 10 districts in 4 provinces, 2014-2019.

Format

The published profile formats are an A3, 1-sheet (4 page), folded-booklet form and are executive summaries of the unpublished extended profiles. The extended detailed profiles are currently only in English and are unpublished. It is envisaged that the published summary and extended profiles are updated periodically (biennially), by the respective districts.

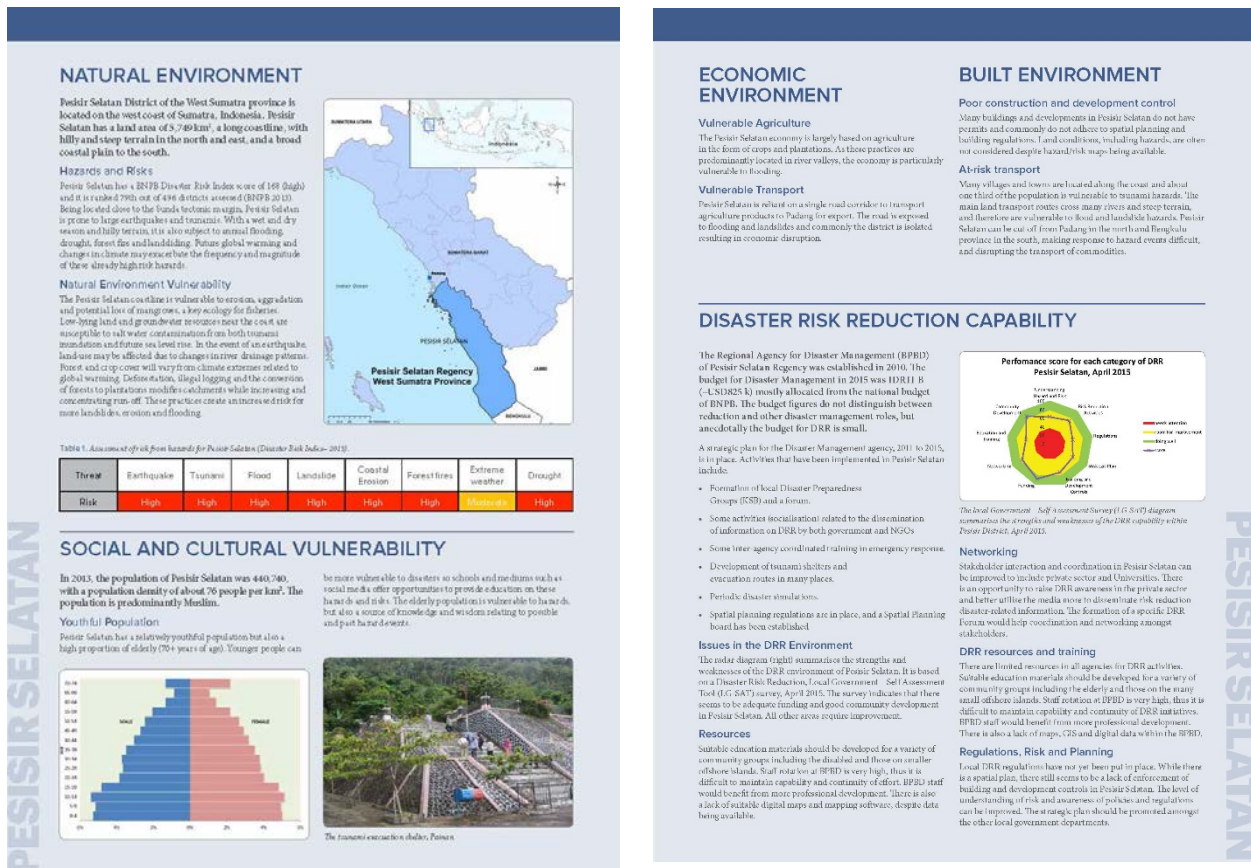


Figure 2: An example of the inside two pages of a DRR profile (in this case from Pesisir Selatan). The profile summarises the district vulnerability in terms of the natural, social and cultural, economic and built environments, and the DRR capacity of the districts using images, graphs and charts to provide a snapshot.

Content

Four environments - natural, built, social and cultural – are described and potential impacts from hazards. The current Disaster Risk Reduction environment of the District is also considered. A description of each of these is as follows:

Natural Environment

Each district is described in terms of its natural environment including tectonic setting, climate, topography, geology, soil, geomorphology, and hydrology. Hazards that impact on the district are described along with the risk index, and in the longer profiles some recent historical events, and the impacts these events caused are described. The potential effects of hazards on the natural environment is also noted.

Built Environment

The built environment is described in detail in the long profiles in terms of land use, buildings, transportation, energy and water supply and waste management. Only the key features of the infrastructure that make them vulnerable to hazards is included in the summary profiles.

Social and Cultural Environment

The administrative areas (sub-districts, villages), demographics, ethnicity and religion of a district are summarised. Vulnerability of the population in terms of distribution (e.g. coastal, flood plains), age (children, elderly) and disabled are discussed, along with the importance of educating transmigrants on local hazards. Information from women’s focus group discussions in each of the districts is also included as well as a vulnerability workshop held for stakeholders during one of the introductory visits to each district.

Economic Environment

The economic environment covers the main industries and livelihoods and the vulnerability of these industries or associated distribution networks to the hazards within the district, particularly in terms of economic impact.

Disaster Risk Reduction capability

The existing DRR activities and initiatives of the District are described, including whether there are local DRR regulations in place and the level of coordination between local government agencies. Strengths and weaknesses of the local government Disaster Risk Reduction capability are measured by the DRR Local Government Self- Assessment Tool (Anantasari *et al.* 2017), and also noted from the [Focus Group Discussions](#) at the 1-day introductory workshop sessions, and Women’s Focus Groups held in each District.

Information on the budget spent on DRR initiatives was collected and reported, but as many districts do not separate out Disaster Management from Disaster Risk Reduction efforts, any interpretation of such figures needs to be treated with caution. Areas where capacity and capability could be improved were noted and can be used as a foundation to developing DRR Action Plans.

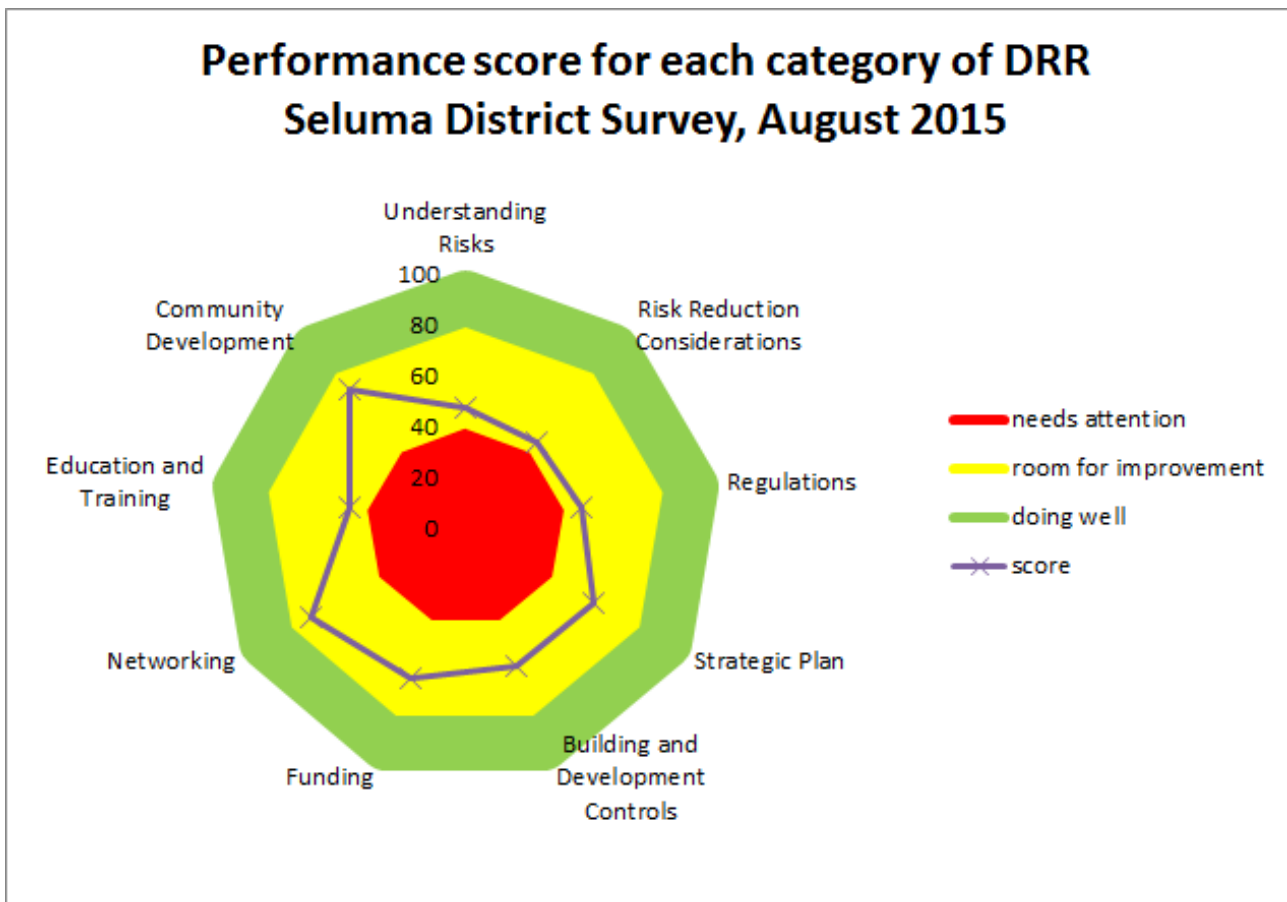


Figure 3: A radar diagram, depicting pictorially a measure of the DRR capability of the Seluma District, developed from analysis of the [DRR LG-SAT questionnaire](#) completed by local government representatives.

Sources of Information used in developing the profiles

Resources used to compile the profile, a summary of the StIRRRD project, and StIRRRD contacts are included on the back page of the summary profile (Figure 4). Specific sources of information that contributed to the profiles are listed in the References and Resources section below.

Much of the quantitative information provided in the profiles comes from data published by the Indonesian Department of Statistics (Badan Pusat Statistik – BPS – e.g. Figure 5). Each district compiles and publishes annual statistics on population, trade, energy use, transport etc.



Figure 4: Back page of the Sumbawa summary profile giving Information about the StIRRRD Project and the sources of information.




Figure 5: Cover of the annual Badan Pusat Statistik (BPS) publication for Kota Bengkulu. These publications provide significant information used in the Vulnerability profiles. These are commonly published in English.

Other sources of information have included:

- information gathered from 1-day Introductory workshops with district government representatives to discuss local hazard and risk issues, and which included a session on identification and discussion of vulnerable groups;
- A Disaster Risk Reduction, Local Government - Self Assessment Survey (Anantasari *et al.* 2017);
- District hazard and risk maps and records of historical hazard events;
- News websites;
- Land use, topography, geology, soils of the district based on available digital data;

- “Women’s Issues in DRR” Focus Group discussions held in each district; and
- The Disaster Risk Index of Indonesia (IRBI - [Indeks Risiko Bencana Indonesia](#), BNPB 2013).



Indeks Risiko Bencana Indonesia (Disaster Risk Index of Indonesia)

The Disaster Risk Index of Indonesia (IRBI) is compiled by the National Board for Disaster Management (BNPB) on a biennial basis (i.e. every two-years). It is focused on disaster risk rather than disaster vulnerability. Disaster risk assessment is intended to forecast the possible impacts of a hazard, and if these impacts constitute a disaster. Therefore, this assessment is focussed on the magnitude of each type of hazard and combination of multiple hazards, and their potential impacts (i.e. numbers of victims and damage cost). It also takes into consideration the capacity of each district and municipality to deal with the hazard(s). It is hoped that the Index provides guidance on institutional policies, funding, planning, disaster management operational procedures and risk reduction priorities for each district. The last update was 2013 with a view to update it by 2018

Updating Profiles

The profiles ideally should be updated every two years (biennially) preferably following the published update of the Disaster Risk Index of Indonesia. Updates would include changes in demographics, the built infrastructure and the economic environment. It also gives the districts an opportunity to summarise DRR initiatives and associated reduction of risk, and report on spending related to DRR.

The profiles do not necessarily need to be printed but can be an online resource. Some districts may require support to update the profiles. A peer support network of districts has been created within the StIRRRD project which meets biannually. Facilitated by UGM, this group could provide peer support and coordinate profile updates. Additional support could be provided by BNPB and Kemendesra.

The use and value of the profiles will be evaluated at several points during the StIRRRD project: during district visits and also as part of the next LG-SAT questionnaire deployment (planned for 2019).

References and Resources

References

Anantasari, E.; Daly, M.C, Glassey, P.J., Grace, E.S, Coomer, M.A. and Woods, R. 2017. Measuring Disaster Risk Reduction (DRR) Capacity and Capability of Local Government in Indonesia *in* *Disaster Risk Reduction in Indonesia: progress and challenges in managing risks, reducing vulnerability and building resilience* (eds. Djalante, R, Thomalla, F., Garschagen, and Shaw) Springer International Publishing AG. 2017.

BNPB 2013, [Indeks Risiko Bencana Indonesia](#) (IRBI). Badan Nasional Penanggulangan Bencana, 2013.

IFRC (1999) [Vulnerability and Capacity Assessment Guidelines](#). International Federations of Red Cross and Red Crescent Societies.

Resources

BNPB, 2014. Dokumen Jalur Evakuasi Bencana Tsunami, Kab.Seluma, Prov. Bengkulu Tahun 2014 - 2018. Badan Nasional Penanggulangan Bencana 2014.

BPS 2015: Kota Bengkulu Dalam Angka 2014 (Bengkulu in Figures 2014). Badan Pusat Statistik, Kota Bengkulu, 2015.

BPS 2015: Statistik Daerah Kota Mataram 2015. Badan Pusat Statistik, Kota Mataram, 2015.

BPS 2015: Statistik Daerah Kota Sumbawa 2015. Badan Pusat Statistik, Sumbawa, 2015.

BPS 2014: Agama Dalam Angka 2014 (Agama in Figures 2014). Badan Pusat Statistik, Kabupaten Agam, 2014.

BPS 2014: Pesisir Selatan Dalam Angka 2014 (Pesisir Selatan in Figures 2014). Badan Pusat Statistik, Kabupaten Pesisir Selatan, 2014.

BPS 2014: Kabupaten Seluma Dalam Angka 2014 (Seluma Regency in Figures 2014). Badan Pusat Statistik, Kabupaten Seluma, 2014.

BPS 2013: Kabupaten Donggala Dalam Angka 2013 (Donggala Regency in Figures 2013). Badan Pusat Statistik, Kota Donggala, 2013.

Data & Informasi Bencana Indonesia (DIBI) 2013, <http://dibi.bnpb.go.id/>. (accessed 2015)

Gafoer, S., Amin, T.C. & Pardede, R. 1992. Geology of the Bengkulu Quadrangle (0912), Sumatra (1:25000). Directorate General of Geology and Mineral Resources, Geological Research and Development Centre, Bandung.

Gusman, A. R.; Tanioka, Y.; Matsumoto, H.; Iwasaki, S. (2009), "Analysis of the Tsunami Generated by the Great 1977 Sumba Earthquake that Occurred in Indonesia", Bulletin of the Seismological Society of America (Seismological Society of America) 99 (4): 2169–2179

<http://floodlist.com/asia> (accessed 2015)

<http://en.tempo.co>. (accessed 2015)

<http://www.antaraneews.com> (accessed 2015)

<http://reliefweb.int> (accessed 2015)

<http://www.bpbdbengkulukota.go.id> (accessed 2015)

Karim, Sutarman; Triyanto;Febriandi; 2007. Pemetaan Bahaya Dan Risiko Bencana Alam Di Kabupaten Agam Sumatera Barat: Laporan Penelitian. Research report Universitas Negeri Padang, 2007.

Karim, Sutarman; Triyanto; Febriandi; 2007. Pemetaan Bahaya Dan Risiko Bencana Alam Di Kabupaten Pesisir Selatan Sumatera Barat: Laporan Penelitian. Research report Universitas Negeri Padang, 2007.

National Agency for Surveys and Mapping/Bakosurtanal <http://www.bakosurtanal.go.id/peta-tematik/> (accessed 2015)