

PESISIR SELATAN REGENCY – NATURAL DISASTER VULNERABILITY PROFILE

This profile summarises the vulnerability of the Natural, Built, Social and Cultural, and Economic environments of Pesisir Selatan to natural hazards. The Disaster Risk Reduction Capability of the local government is also described.

2015



The District Mayor's office features in this view of Painan from the tsunami evacuation shelter



NATURAL ENVIRONMENT

Pesisir Selatan District of the West Sumatra province is located on the west coast of Sumatra, Indonesia. Pesisir Selatan has a land area of 5,749 km², a long coastline, with hilly and steep terrain in the north and east, and a broad coastal plain to the south.

Hazards and Risks

Pesisir Selatan has a BNPB Disaster Risk Index score of 168 (high) and it is ranked 79th out of 496 districts assessed (BNPB 2013). Being located close to the Sunda tectonic margin, Pesisir Selatan is prone to large earthquakes and tsunamis. With a wet and dry season and hilly terrain, it is also subject to annual flooding, drought, forest fire and landsliding. Future global warming and changes in climate may exacerbate the frequency and magnitude of these already high risk hazards.

Natural Environment Vulnerability

The Pesisir Selatan coastline is vulnerable to erosion, aggradation and potential loss of mangroves, a key ecology for fisheries. Low-lying land and groundwater resources near the coast are susceptible to salt water contamination from both tsunami inundation and future sea level rise. In the event of an earthquake, land-use may be affected due to changes in river drainage patterns. Forest and crop cover will vary from climate extremes related to global warming. Deforestation, illegal logging and the conversion of forests to plantations modifies catchments while increasing and concentrating run-off. These practices create an increased risk for more landslides, erosion and flooding.



Table 1. Assessment of risk from hazards for Pesisir Selatan (Disaster Risk Index– 2013).

Threat	Earthquake	Tsunami	Flood	Landslide	Coastal Erosion	Forest fires	Extreme weather	Drought
Risk	High	High	High	High	High	High	Moderate	High

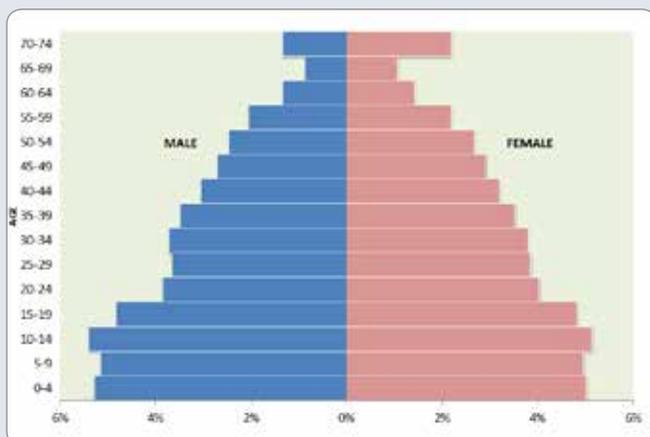
SOCIAL AND CULTURAL VULNERABILITY

In 2013, the population of Pesisir Selatan was 440,740, with a population density of about 76 people per km². The population is predominantly Muslim.

Youthful Population

Pesisir Selatan has a relatively youthful population but also a high proportion of elderly (70+ years of age). Younger people can

be more vulnerable to disasters so schools and mediums such as social media offer opportunities to provide education on these hazards and risks. The elderly population is vulnerable to hazards, but also a source of knowledge and wisdom relating to possible and past hazard events.



The tsunami evacuation shelter, Painan

ECONOMIC ENVIRONMENT

Vulnerable Agriculture

The Pesisir Selatan economy is largely based on agriculture in the form of crops and plantations. As these practices are predominantly located in river valleys, the economy is particularly vulnerable to flooding.

Vulnerable Transport

Pesisir Selatan is reliant on a single road corridor to transport agriculture products to Padang for export. The road is exposed to flooding and landslides and commonly the district is isolated resulting in economic disruption.

BUILT ENVIRONMENT

Poor construction and development control

Many buildings and developments in Pesisir Selatan do not have permits and commonly do not adhere to spatial planning and building regulations. Land conditions, including hazards, are often not considered despite hazard/risk maps being available.

At-risk transport

Many villages and towns are located along the coast and about one third of the population is vulnerable to tsunami hazards. The main land transport routes cross many rivers and steep terrain, and therefore are vulnerable to flood and landslide hazards. Pesisir Selatan can be cut off from Padang in the north and Bengkulu province in the south, making response to hazard events difficult, and disrupting the transport of commodities.

DISASTER RISK REDUCTION CAPABILITY

The Regional Agency for Disaster Management (BPBD) of Pesisir Selatan Regency was established in 2010. The budget for Disaster Management in 2015 was IDR11 B (~USD825 k) mostly allocated from the national budget of BNPB. The budget figures do not distinguish between reduction and other disaster management roles, but anecdotally the budget for DRR is small.

A strategic plan for the Disaster Management agency, 2011 to 2015, is in place. Activities that have been implemented in Pesisir Selatan include:

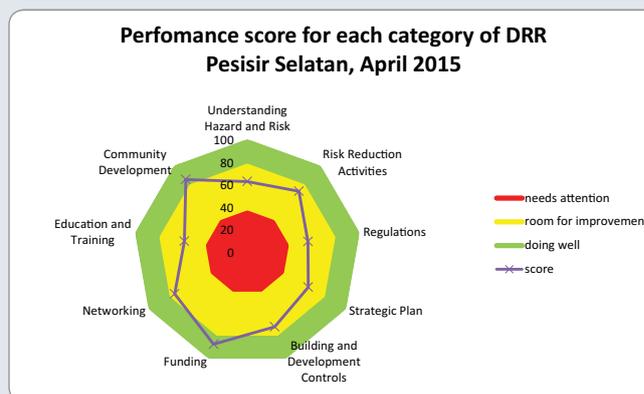
- Formation of local Disaster Preparedness Groups (KSB) and a forum.
- Some activities (socialisation) related to the dissemination of information on DRR by both government and NGOs
- Some inter-agency coordinated training in emergency response.
- Development of tsunami shelters and evacuation routes in many places.
- Periodic disaster simulations.
- Spatial planning regulations are in place, and a Spatial Planning board has been established

Issues in the DRR Environment

The radar diagram (right) summarises the strengths and weaknesses of the DRR environment of Pesisir Selatan. It is based on a Disaster Risk Reduction, Local Government – Self Assessment Tool (LG-SAT) survey, April 2015. The survey indicates that there seems to be adequate funding and good community development in Pesisir Selatan. All other areas require improvement.

Resources

Suitable education materials should be developed for a variety of community groups including the disabled and those on smaller offshore islands. Staff rotation at BPBD is very high, thus it is difficult to maintain capability and continuity of effort. BPBD staff would benefit from more professional development. There is also a lack of suitable digital maps and mapping software, despite data being available.



The local Government – Self Assessment Survey (LG-SAT) diagram summarises the strengths and weaknesses of the DRR capability within Pesisir District, April 2015.

Networking

Stakeholder interaction and coordination in Pesisir Selatan can be improved to include private sector and Universities. There is an opportunity to raise DRR awareness in the private sector and better utilise the media more to disseminate risk reduction disaster-related information. The formation of a specific DRR Forum would help coordination and networking amongst stakeholders.

DRR resources and training

There are limited resources in all agencies for DRR activities. Suitable education materials should be developed for a variety of community groups including the elderly and those on the many small offshore islands. Staff rotation at BPBD is very high, thus it is difficult to maintain capability and continuity of DRR initiatives. BPBD staff would benefit from more professional development. There is also a lack of maps, GIS and digital data within the BPBD.

Regulations, Risk and Planning

Local DRR regulations have not yet been put in place. While there is a spatial plan, there still seems to be a lack of enforcement of building and development controls in Pesisir Selatan. The level of understanding of risk and awareness of policies and regulations can be improved. The strategic plan should be promoted amongst the other local government departments.

ABOUT StIRRRD

STRENGTHENED INDONESIAN RESILIENCE: REDUCING RISK FROM DISASTERS



With funding support from the New Zealand Aid Programme, Universitas Gadjah Mada (UGM) is partnering with GNS Science in an Activity which supports the Indonesian Government to reduce the impacts of natural disasters through increasing the disaster risk reduction (DRR) capability of local government and local universities. The Activity assists 10 districts and associated universities to understand their DRR issues and priorities, helps develop their capability to understand and manage these issues, and then to develop an action plan and implementation programme.

A key part of this involves cementing relationships between local government and local universities who will develop teaching and research programmes in aspects of disaster risk management to support their local communities. The districts involved in the Activity will also provide peer support to each other on the learning journey. The Project is supported by the Indonesian National Agency for Disaster Mitigation (BNPB) and Kemendesa.

Sources:

BNPB, 2013. *Indeks Rawan Bencana Indonesia*. Badan Nasional Penanggulangan Bencana, 2013.

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<http://floodlist.com/asia>

<http://en.tempo.co>

<http://www.antaranews.com>

<http://reliefweb.int>

FOR MORE INFORMATION:

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