

MOROWALI REGENCY – NATURAL DISASTER VULNERABILITY PROFILE

This profile summarises the vulnerability of the Natural, Built, Social and Economic environments of Morowali Regency to natural hazards. The Disaster Risk reduction initiatives by the local government are also described.

2016



Morowali has many small coastal villages at risk of flooding from upstream catchments as well as the ocean



NATURAL ENVIRONMENT

Morowali Regency is located in the southeast of Central Sulawesi Province on Sulawesi, Indonesia. Morowali has nine sub-districts with the capital city of Bungku comprising four of these. With a land area of 5,472 km², the region occupies low coastal plains, small river basins, raised coastal terraces and variable hill terrain. Morowali also has a number of offshore islands located in the Banda Sea to the southeast of the mainland.

Hazards and Risks

Located in Central Sulawesi, Morowali is subject to active tectonic processes and like much of Indonesia, has a wet and dry seasonal climate. Hence, the regency is particularly prone to large earthquakes, tsunamis and regular flooding. Future changes in climate are likely to exacerbate the intensity of extreme storms resulting in larger floods. Morowali Regency has a BNPB Disaster Risk Index Score of 189 (high) and is ranked 80th out of the 496 districts assessed (BNPB 2013).

Natural Environment Vulnerability

Morowali's steep terrain makes the regency prone to landslides, debris flows and erosion. These hazards produce significant amounts of sediment which fills river beds leading to more flooding and the accretion of sediment in coastal areas. In these areas, the loss of mangroves has also contributed to widespread coastal abrasion. Low-lying areas on the coast are also at risk of saline intrusion from tidal waves and tsunamis. Flooding is common within the district during the rainy season whereas drought often occurs in the dry season. Changes in future climate will likely increase the severity of both flooding and droughts.

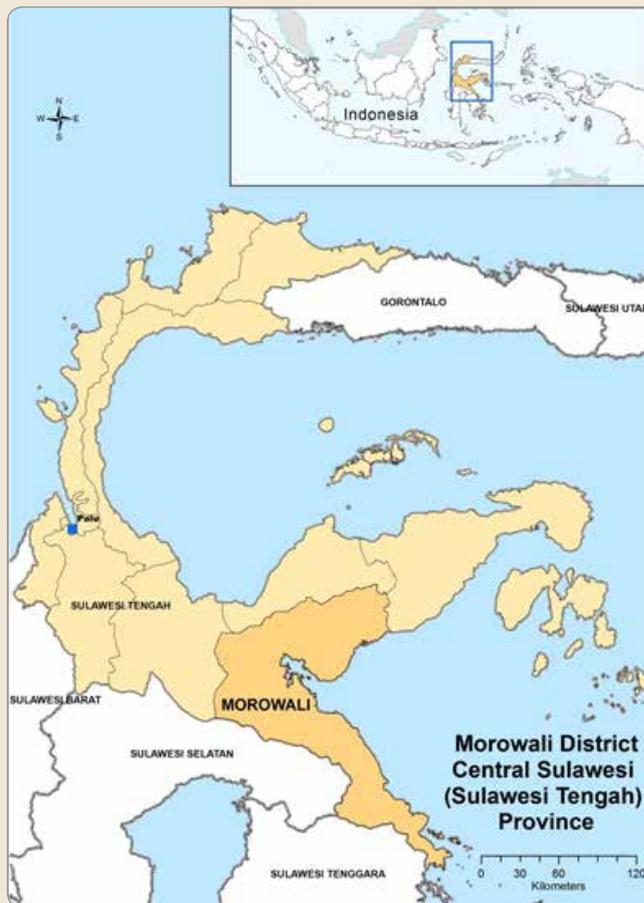


Table 1. Assessment of risk from hazards for Morowali Regency (Disaster Risk Index–2013).

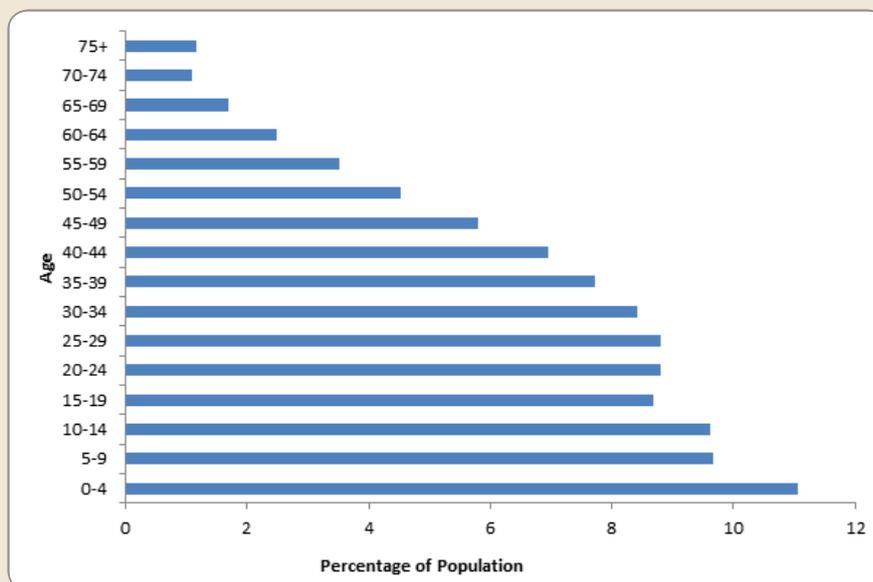
Threat	Earthquake	Tsunami	Flood	Landslide	Coastal Erosion	Forest Fire	Extreme Weather	Drought
Risk	High	High	Moderate	High	High	High	Moderate	Moderate

SOCIAL ENVIRONMENT

The population of Morowali Regency in 2014 was 111,002. As much of the regency is rural with interspersed villages, population densities are relatively low when compared to many other parts of Indonesia. The population of Morowali is predominantly Muslim.

Youthful Population

With greater than 50 percent of the population younger than 30 years old Morowali Regency has a youthful population. Younger people can be more vulnerable to disasters however this does present education opportunities on hazards and risks through schools. In addition, social media is a good education platform for children and young adults.



Source: Morowali Regency in Figures 2015.

ECONOMIC ENVIRONMENT

Vulnerable Economy

Morowali's economy is heavily reliant on exports. In recent years, the main export commodities included palm oil, nickel ore and crude oil. These sectors are run by large companies that are not located within Morowali or in some cases not in Indonesia. Significant changes to global demand or prices of these commodities could impact the Morowali economy significantly. In addition, natural hazards such as debris flow, flooding and sedimentation can damage the infrastructure that these sectors rely on.



Roading infrastructure impacted by increased sedimentation due to bare land in Bungku Tengah, February 2016.

Catchment Management

Deforestation due to both logging and mining and the subsequent conversion of forests to plantations can exacerbate problems with catchment management. Land that remains exposed and is not replanted is very prone to erosion. Heavy rainfall efficiently moves large amounts of sediment down the catchment, exacerbating flooding while significantly impacting properties and infrastructure. Increased sedimentation has also contributed to the loss of mangrove plantations on the coast.

BUILT ENVIRONMENT

Poor Construction and Development Control

Many buildings and developments in Morowali Regency do not have permits and commonly do not adhere to spatial planning and building regulations. Land conditions, including hazards, are often not considered before construction. This has resulted in many buildings at risk of collapse during earthquake shaking, due to liquefaction or flooding. Many homes are also located in low lying coastal areas or close to river channels and as a result, are at risk of flooding and erosion.

Vulnerable Infrastructure

Roads, bridges, houses of worship, schools, and homes have not necessarily been constructed to withstand flood and earthquake related hazards. Roads and bridges are vulnerable to erosion, landslide and debris flows. When roads are impacted by these hazards there are often no alternative routes for the distribution of aid or resources immediately following the event.

DISASTER RISK REDUCTION CAPABILITY

The budget for Disaster Management is mostly allocated from the national budget of the BNPB (National Disaster Management Agency). Since 2011, the local BPBD (Disaster Management Agency) budget has been variable for Morowali with a 2016 estimate of 38,380 M Rupiah (USD \$2,877,604) budgeted. The 2016 value should be used with caution as it is disproportionate to other StIRRRD districts and may be related to response based activities as a result of flooding in recent years.

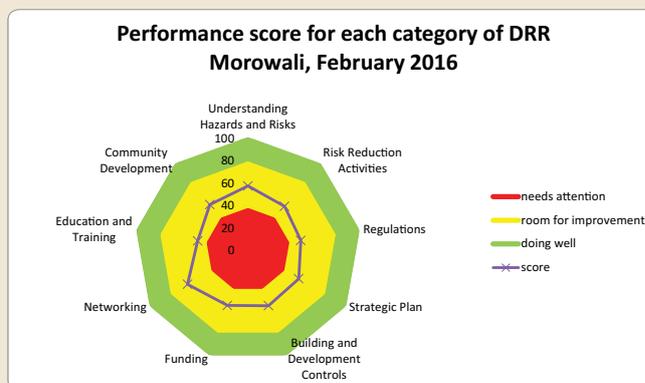
Coordination

While there is a structure to facilitate DRR activities in place through regulation and the establishment of the BPBD; education, training and collaboration on DRR needs improvement in Morowali Regency. Discussions identified that there is a lack of community participation and knowledge on DRR activities resulting in the community becoming more dependent on government authorities.

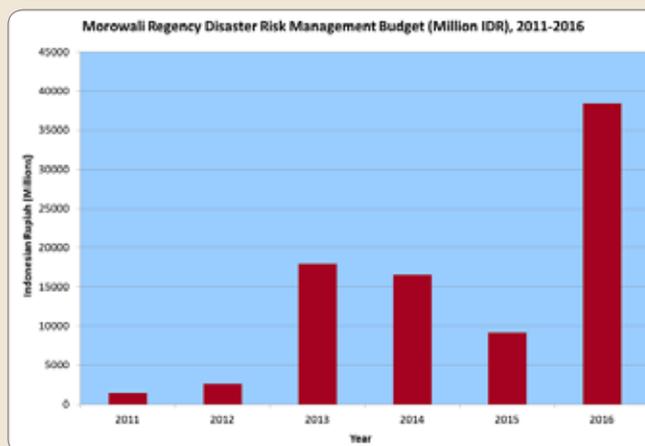
There is some collaboration between government agencies and NGO's however, there is opportunities for NGO's to be more effectively used in training and simulation activities. In addition, work needs to be undertaken to get more private sector involvement in DRR initiatives.

Ownership of DRR Responsibilities

In Morowali, it is not well understood that government agencies other than BPBD, private sectors and communities have a responsibility to implement disaster risk reduction measures. As such, DRR activities are not well coordinated or integrated across these groups and agencies. These stakeholders typically have the view that disaster risk management is the sole responsibility of the government and specifically BPBD.



The Local Government – Self Assessment Survey (LG-SAT) diagram summarises the strengths and weaknesses of the DRR environment for Morowali regency, February 2016.



Source: BPBD Morowali, 2016.

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*.

BPS 2013. *Morowali District in Figures 2015*.

Notes from StIRRRD Introductory Visit Workshop (7 August 2015)

Notes from StIRRRD Preliminary Action Plan Workshop (17 February 2016).

Notes from StIRRRD Women's Focus Group Discussion (17 February 2016).

FOR MORE INFORMATION:

<http://StIRRRD.org> or

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