DONGGALA REGENCY – NATURAL DISASTER VULNERABILITY PROFILE

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

2016

With most of Donggala's communities located on or near the coast, coastal hazards are a significant problem for the district

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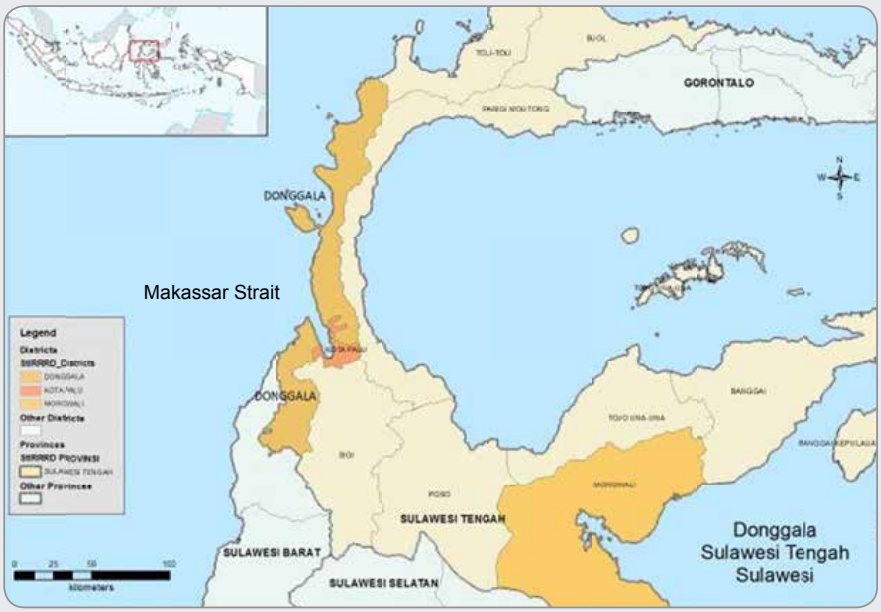
NATURAL ENVIRONMENT

Donggala Regency is located in the west of Central Sulawesi Province on Sulawesi, Indonesia. An elongated stretch of land, nearly 300 kms in length, the regency has an area of 5,275 km². At its southern most extent, the regency is divided by the city of Palu. The regency mostly comprises high steep terrain with low coastal plains extending towards the Makassar Strait.

Hazards and Risks

Located in Central Sulawesi, Donggala 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, regular flooding and forest fires. Future changes in climate are likely to exacerbate the intensity of extreme storms resulting in larger floods. Donggala 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

Donggala'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 Donggala Regency (Disaster Risk Index – 2013).*

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

SOCIAL AND CULTURAL VULNERABILITY

The population of Donggala Regency in 2012 was 284,113. The capital sub-district, Banawa, is the most densely populated area in Donggala at 330 people per km².

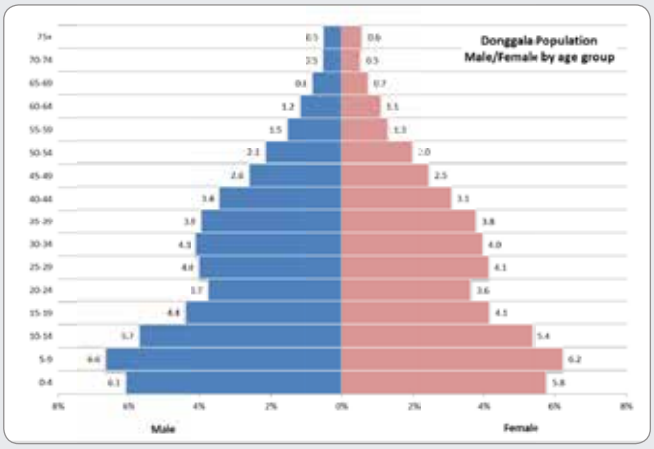
The population is predominantly Muslim with Pinembani being the only sub-district not have a Muslim majority.

Youthful Population

Donggala 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.

Immigration

At least 13% of Donggala's population has immigrated from outside of the regency, either through spontaneous migration or transmigration. These people are often more vulnerable to disasters as they have less knowledge of the local natural hazards and risk reduction measures already in place. Often migrants are not familiar with local customs or social norms which can cause social conflict in some sub-districts



ECONOMIC ENVIRONMENT

Vulnerable Agriculture

While there is a diverse range of small scale industries in Donggala, over 95% of trade in the regency is related to sand and gravel products. The reliance on one sector makes the district particularly vulnerable to hazards such as debris flows, flooding and sedimentation which can all disrupt activities. In addition, extraction activities exacerbate bank destabilisation causing further erosion.

Catchment Management

Deforestation due to both legal and illegal logging and the subsequent conversion of forests to plantations can exacerbate problems with catchment management. These activities increase and concentrates run-off, increasing erosion potential and the likelihood of debris flows which can impact downstream areas.

BUILT ENVIRONMENT

Poor construction and development control

Many buildings and developments in Donggala 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 following the event.

DISASTER RISK REDUCTION CAPABILITY

The budget for Disaster Risk Management in 2016 is 9.8 B Rupiah (~USD$746 k) and has increased annually since 2011. There is good political support for Disaster Risk Management from the district parliament in Donggala.

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 Donggala 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.

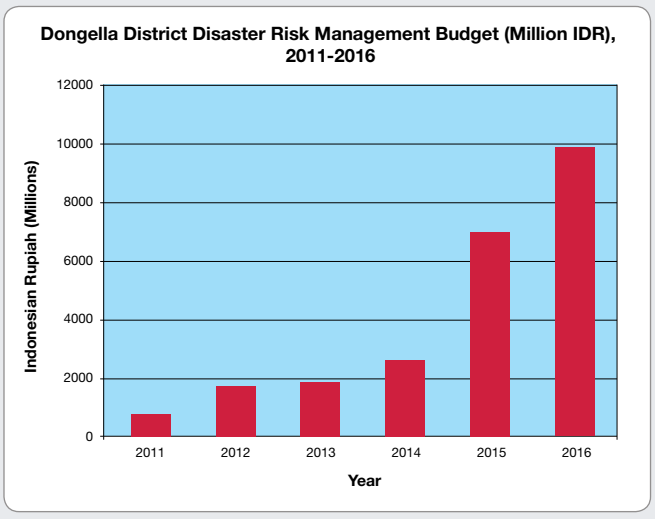
There is good collaboration between government agencies and NGO's however, there is opportunities for NGO's to be more effectively used in training and simulation activities. In addition, work needs to be undertaken to get more private sector involvement in DRR initiatives.

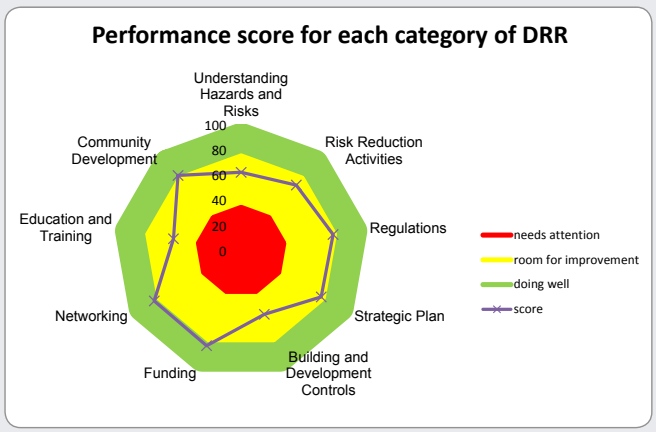
Ownership of DRR Responsibilities

In Donggala, 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.

Building and Development Controls

The LG-SAT analysis indicates that building and development controls needs strengthening. This is particularly in relation to poor construction practices and a lack of development controls as discussed under the built environment section.





The Local Government – Self Assessment Survey (LG-SAT) diagram summarises the strengths and weaknesses of the DRR environment with Donggala Regency, March 2015.

ABOUT StIRRRD

STRENGTHENED INDONESIAN RESILIENCE: REDUCING RISK FROM DISASTERS

Sources:

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

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

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.

FOR MORE INFORMATION:

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