Climate Change Vulnerability and Adaptation Assessment

Cooperation: Indonesian Ministry of Environment, GIZ & Australia

Factsheet December 2011

"Adaptation must be *addressed with the same priority as mitigation and requires appropriate institutional arrangements to enhance adaptation action and support"*

Ad Hoc Working Group on Long Cooperative Action (COP 16, Cancun, Mexico)

Sites:
Tarakan, South Sumatra, Malang Raya
Partners
Indonesian Ministry of Environment, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and Australia
Overall term:
2010-2012

Background

Climate Change Impact

Indonesia is strongly exposed to climate change. With over 17,000 islands, the rising sea level alongside changes in precipitation and extreme climate events are a major issue. Climate projections indicate that the mean wet-season rainfall will increase in most of Indonesia, especially in regions located south of the equator such as Java and Bali. At the same time, the length of the dry season is expected to increase.

Moreover, an increase in the intensity and frequency of extreme events such as El Niño, which have caused major droughts and fires in Indonesia, is already noticeable in the Asian region. The risk of floods during the rainy season as well as the risk of drought in the dry season is likely to increase. This will particularly impact water resources, agriculture, forestry, fishery as well as the health sector and the infrastructure of the country. It is already clear that land subsidence, a rise in the sea level, floods, droughts, landslides, and forest fires are causing considerable damage in Indonesia.

Adaptive measures can mitigate damage and avoid exacerbating the impacts of natural disasters. Therefore, the necessity for adaptation measures at national and local levels is rapidly emerging as a central issue in the debate around policy responses to climate change. In order to prioritize, design and implement interventions to adapt to climate change, it is essential to establish a coherent set of approaches, frameworks and methodologies for examining vulnerability and adaptive capacity.

The Project

The Objectives of the Project

The overall objective of the Project is to develop and replicate further the nationally approved *Climate Change Vulnerability and Adaptation Assessment* (V-A) approach at Provincial (South Sumatra) and District/City levels (Tarakan and Malang Raya), to develop corresponding adaptation strategies and to facilitate their implementation by identifying adequate financing.

The Strategy to reach the Objectives

In the context of a political system that is shifting from centralized to decentralized structures, it is becoming increasingly urgent for local (province/district/city) governments to have a role in climate change adaptation activities.

It is therefore proposed to support local governments in applying a "meso-level multi-sectoral" *Climate Change Vulnerability Assessment* approach at the provincial level and a "micro-level multi-sectoral" *Climate Change Vulnerability Assessment* approach at the city/district level. This was first tested on the Island of Lombok in 2008. This means assessing vulnerability at the meso- and micro- levels while simultaneously considering the multi-sectoral impacts of climate change e.g. on the water, agricultural, health and coastal/marine sectors. On the basis of the findings of the *Climate Change Vulnerability Assessment*, adaptation options are prioritized and an adaptation strategy is formulated in close collaboration with the local governments of the respective project site.

As a next step, the adaptations strategies will be mainstreamed into local development and spatial planning. Given that the preparation of the local development planning depends on the local government election cycle, the project will prepare both the input for the *forthcoming* local development plans and for the annual sector plans as an *immediate* contribution.

In achieving these goals, this Project will also contribute towards improving the national policy framework conditions for local level adaptation. More precisely, the project will develop guidelines for local level adaptation, including methods for performing Vulnerability Assessments and approaches for mainstreaming the results into spatial & development planning.

This will prove particularly useful in the context of the new Indonesian Environmental Law (Act 32/2009) that outlines the framework of mitigation and adaptation issues in Indonesia. This law specifically requires local governments to prepare Strategic Environmental Assessments and Environmental Management Plans that include climate impacts and vulnerabilities as a basis for their spatial and development planning. This Project will develop a strategy to put act 32/2009 into operation by developing standardised tools and approaches to draft Strategic Environmental Assessments and Environmental Management Plans. The Project will also identify corresponding funding options for climate change adaptation accessible to local governments, such as the Indonesia Climate Change Trust Fund (ICCTF).

The Project Sites: Tarakan, South Sumatra and Malang Raya

In order to understand more about Indonesia's overall level of vulnerability, there is a need to replicate the Lombok Island study. Therefore, it is planned to repeat the study in three regions that exhibit distinct characteristics related to climate change and that are considered to be representative of "typical" Indonesian settings.

South Sumatra is a province which extends across approx 8.7 million hectares with a population over 7 million as of 2007. This province represents areas which would experience adverse impacts from climate change e.g. water supply shortages in urban centres, aggravated floods, and impacts on agricultural production. In South Sumatra the "meso-level multi-sectoral approach" will be applied.

East Kalimantan Tarakan is a city which covers 250.80 km² with a population over 160 thousand as of 2006. Tarakan City representative of coastal zone regions which would experience adverse impacts from climate change e.g. flooding of coastal areas, small island areas, and infrastructure, etc. and progressive flooding through both a rise in sea level and land subsidence in Tarakan city. In Tarakan, the "micro-level multi-sectoral approach" will be applied.

Java Island is Indonesia's most populated island and biggest contributor to Gross Domestic Product (GDP). Yet, it is highly dependent on agriculture and hence significantly vulnerable to negative impacts from climate change and natural disasters including earthquakes, floods, landslides, droughts, rises in sea-level and tropical storms. The Project will focus on Malang Raya in East Java. The area under study includes the upstream Brantas River: Kota Malang, Kabupaten Malang and Kota Batu. In Malang Raya, the "micro-level multi-sectoral approach" will be applied.

The Current Status of the Project as of December 2011

The Project has two phases, a scientific phase and a policy phase. The scientific phase of the Project is complete and Climate Change Risk Maps are available for the Agricultural, Water, Health and Coastal Sectors. The Climate Risk Maps show the risk of sector climate change impact as a function of Exposure, Sensitivity and Adaptive Capacity. The policy phase of the Project has started and adaptation options have been identified on the basis of risk maps. The prioritization of adaptation options has started and the mainstreaming process into spatial and development planning is currently being prepared.

The Cooperation

The Project is a joint cooperation between the Indonesian Ministry of Environment, GIZ, and the Australian Government. The implementation of the Project is also supported by the respective local governments in Tarakan and South Sumatra. The Indonesian Ministry of Environment acts as project facilitator and overall coordinator in implementing the Project, especially in communication and coordination with international partner institutions (Australian Government and GIZ) and local governments. The local governments will be responsible for internal coordination at the local level. The Project will run until April 2012.

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