

Method Brief

Indonesia: Vulnerabilities of ecosystem-dependent communities

The Method

Vulnerability Assessment by the World Wildlife Fund – Indonesia (WWF-VA) is a rapid method to identify adaptation options for ecosystem-dependent communities, which are vulnerable to climate variability and change. It was piloted in Malemba and Mensiau, two villages between the Sentarum Lake National Park (*Taman Nasional Danau Sentarum*) and Betung Kerihun National Park (*Taman Nasional Betung Kerihun*) of West Kalimantan Province, Indonesia. The area is a migration corridor for orang-utans between the two national parks.

Scope and entry points

The assessment aims to identify options to increase community resilience to climate variability. The livelihoods of the target communities are very dependent on a normal and predictable climate, and they may expand their agricultural and hunting activities to the migration corridor to survive, putting orang-utans in danger. The method is designed to be applicable at village or local community level.

How it works

The method adapts the framework of the Center for International Forestry Research (CIFOR) for assessing the vulnerability of inter-linked societal-and-environmental systems (Locatelli et al. 2009). The steps of the process are illustrated in Figure.

The **preparatory step** includes (i) agreement on the focus and aim of the study, (ii) collection of preliminary information (geographical setting, environmental and ecosystem conditions, climate, livelihoods of the community) to understand the local context, and (iii) development of guiding questions for in-depth discussions with villagers and local community leaders. Local knowledge is used when published data or reports are not available. The guiding questions focus on three sets of criteria (i) vulnerability of ecosystem services to climate change and variability, (ii) vulnerability of the villagers to changes in ecosystem services, and (iii) adaptive capacity of the system as a whole.

The **primary data collection** includes field observation, interviews and in-depth discussions. The main sources of information are village and sub-village heads, informal community leaders, leaders of youth and women groups, and ordinary villagers. All findings are systematically organised along the three criteria as mentioned and used during the next step, the **qualitative vulnerability analysis**. The findings are qualitatively analysed with respect to the criteria, and scored using a score-card table (Santoso et al. 2011).

In a final step, there is development of **adaptation options**, which might reduce the vulnerability of the system. Vulnerability is defined in a broad way and includes non-climatic causes such as socio-economic factors.

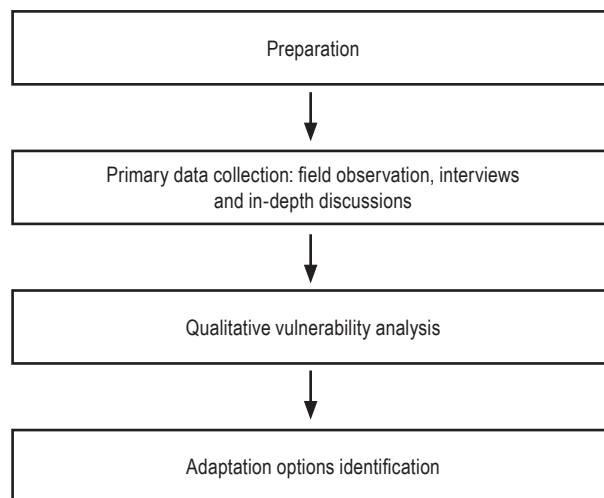


Figure. WWF-VA method.

Specifics of application

Stakeholders and institutional set-up

The main stakeholders for the vulnerability assessment outputs are the Local Development Planning Agency (BAP-PEDA) and civil/social organisations. WWF leads and supports the initiative. Team members from the WWF-In-

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Indonesia main office and the local office in Kalimantan conducted the qualitative vulnerability analysis. Team members with strong local knowledge and experiences helped in validating the analysis. The results were presented in an open discussion forum organised by BAPPEDA.

Input

The method requires an expert in climate change adaptation, preferably with knowledge or experiences in vulnerability assessment. The main tasks of the expert include guidance for the team in scoping the problem, synthesising results, defining guiding questions, and supporting the collection of primary data. Due to the strong focus on knowledge and experiences of local communities, the need for scientific data is restricted mainly to preliminary information to understand the local context.

The method is inexpensive. Financial resources are needed mainly to cover field travel and expert fees. It takes about one month to conduct the study.

Output

The main output is a vulnerability assessment study, which also specifies proposed adaptation options.

Capacity required and ease of use

As explained above, the less capacity is required in the field of high-level substantial/academic knowledge, but more capacity is needed in terms of experience to conduct a participatory and outcome-oriented process at the local level. A pre-condition is governance capacity at the village level to digest the results and lead them to implementation. Local governments, in particular, need to gain ownership and support implementation. Local civil society organisations might also play a helpful role.

Conclusions for future application

Outcome and added value

Due to the pilot character of this project, there is no evidence. The method is useful for understanding local vulnerabilities and developing options to reduce vulnerability. The impact of the method depends on how strongly the recommendations are being reflected in local decision-making.

The method does not support vulnerability comparison or options prioritisation. These are the main drawbacks of the method.

Cost-benefit ratio

The strength of the method is that it offers a simple, rapid and low-cost vulnerability assessment process to identify appropriate adaptation options.

Potential for replication

The method was tested at the village or local community level where a link exists between climate-dependent ecosystem / ecosystem services and the society. It can be easily transferred to other communities of this type. There needs to be further investigation of the potential to transfer this method to the regional or provincial level.

References

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