

**Advisory Review of the EIA
for Land Reclamation
Viligili, Gaafu Alifu Atol
–Maldives–**

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1. INTRODUCTION

1.1 The Initiative: Construction of safe island Viligili, Gaafu Alifu Atoll, Maldives

A Dutch dredging company applied for ORET¹-grants for a dredging and land reclamation project on the Viligili island at the Gaafu Alifu Atoll in the Maldives. This has been done at the request of the Ministry of Finance and the Ministry of Planning and Development in the Maldives, whilst the Ministry of Construction is the proponent for this initiative.

The proposed project aims at creating a safer and larger island for the residents of Viligili as well as strengthening the position of Viligili as a centre for social services (health and education) for residents of the surrounding islands, see Appendix 2 for a map of Viligili. The project involves enlargement of the island by 44 hectares (presently the size of the island is 56 hectares) and the construction of a protecting bund wall on the east side of the island of 2.4 meter above sea level. Due to the enlargement of the island a new , larger port is needed and will be constructed. The project consists of the following construction activities:

- dredging and reclamation of 1,000,000m³ of coral sand;
 - construction of an Environmental Protection Zone (EPZ) and revetments of 1600 meter;
 - dredging of a new harbour;
 - construction of a 200 meter quay wall and 200 meter harbour break-waters;
 - mitigating measures for the environment such as construction of settling basins.
- The equipment that will be used comprises a heavy duty rock-cutting sea-going self-propelled dredger, a pipeline system and a variety of earth moving equipment (bulldozers, dump trucks, wheel loaders, etc).

1.2 Request of FMO and Involvement of the Commission

In July 2006, FMO invited the Netherlands Commission for EIA² (see letter Appendix 1) to advise on the process and contents of the EIA for the proposed project³. The EIA guidelines approved by the Maldives Ministry of environment, energy and water dd. 28 May 2006 have been used as a review framework.

The Commission has not visited Viligili for the following reason. In 2005, at the request of FMO, the Commission provided two advisory reports for an EIA concerning a similar activity on Vilufushi island⁴. A working group of the Commission visited Vilufushi in

¹ Development Related Export Transactions

² Hereafter referred to as 'the Commission'. The Netherlands Commission for Environmental Assessment is an independent body of experts that advises EIA and SEA on request. For more information see www.eia.nl

³ The following main report and addendum have been reviewed. EDC- Environmental Dredging Consultancy: Environmental Impact Assessment (EIA) of the Construction of Safe Island Viligili, Gaafu Alifu Atoll, Maldives, July 2006; Main report and Addendum 1 23/08/2006.

⁴ 1) Netherlands Commission for Environmental Assessment: Advice on terms of reference for the EIA of land reclamation Vilufushi, Thaa Atoll, Maldives 4 July 2005.

2) Netherlands Commission for Environmental assessment: Advisory review of the EIA land reclamation Vilufushi, Thaa Atoll, Maldives 18 December 2005.

June 2005. In our opinion, a site visit would have provided limited added value. This is due to the similarities between the activities and the environmental conditions on the two islands. Apart from the technical secretary, the working group consists of exactly the same experts and chairman (see Appendix 3) as with the Vilufushi advice. As a consequence, we have not (yet) been able to check the quality of the EIA process extensively (this depends on the information we'll get back from the Maldives).

The aim of the review is to check whether the EIA study contains sufficient information to guarantee the full integration of environmental and social considerations in decision-making. If shortcomings are found, the significance of this lack of information for decision-making will be assessed and recommendations will be given for supplementary information.

2. MAIN FINDINGS

The Commission is of the opinion that the EIA report, including Addendum 1 (dd. 23-08-'06) and Addendum 2 (dd. 4-10-'06) on the construction of safe island Viligili in the Gaafu Alifu atoll is in general well written. A lot of information has been collected and analysed in a short period of time, including social-economic information on the residents of Viligili. However, the Commission also concludes that the EIA report shows a few essential shortcomings.

The Commission noticed that a number of the essential shortcomings in this EIA report are comparable to the shortcomings identified by the Commission in the advisory review of the EIA for Vilufushi of 18 December 2005. It appears that for the Viligili EIA not all recommendations provided in the Vilufushi advisory review and of the monitoring results of land reclamation at Vilufushi have been adopted.

The Commission recommends to remedy the essential shortcomings by providing additional information in a supplement to the EIA report **before** decision-making on licence granting.

Chapter 3 contains the issues which are considered essential for decision-making. In order to facilitate easy adaptation, the findings are presented in each chapter of the EIA report.

3. ESSENTIAL SHORTCOMINGS AND RECOMMENDATIONS

3.1 Chapter 6, Baseline Conditions – Existing Natural Environment

On the island there are two swamps or wetlands and one uninhabited vegetated area at the north side of the island. The characteristics of these three areas and the practical value for the residents (e.g. growing fruit trees or recreational use) and for biodiversity conservation are not described. There's no reference to whether or not these areas will be affected directly or indirectly by the proposed project.

These areas can be of considerable value to biodiversity conservation. To be able to assess the significance of the impacts on these areas, in cases where they are affected by the project, more information should be made available.

Recommendation: The following information should be provided; a brief description of the habitats (wetlands and the vegetated area on the north side of the island), their naturalness, use by residents and the value for biodiversity conservation. The impacts (neutral, positive and negative) of the project on these three areas have to be described and justified.

3.2 Chapter 7, Social and Economic Analysis

During the meeting on the draft advisory review dd. 26 September 2006 it became clear that the consultant responsible for socio-economics aspects had meetings at government department in Male. Information about these consultations is not included in the EIA report and Addendum 1 and 2.

Recommendation: Provide detailed information about the consultations with the government departments in Male. Which departments and people visited and the results of these consultations. Which parties will be involved in the follow-up phase.

In the EIA report two different sets of figures are presented on fisheries activities in respectively paragraph 7.7 and 6.4. For example: 25 vessels compared to 10, 380 persons working as fisherman compared to 80 to 90, catch per day: 20 ton compared to 500 to 1000 kg. In paragraph 7.7.2 it is mentioned that MIFCO has a capacity of 200 tons per day, which would not even be enough to process the Viligili catches only (25 vessels, up to 20 ton per day totals up to 500 ton).

Recommendation: Present the correct figures on fisheries activities, which are necessary to justify the proposed extension of the harbour.

Dengue, which is transmitted by mosquitoes, is considered as serious health problem on Viligili. It is stated that mosquito breeding sites are mainly located in the residential areas. Most likely the swamps/wetlands are breeding sites as well but to what extent is not known. The opportunity to remove the mosquito breeding sites in the residential areas is mentioned in the EIA. The Possibility to remove the breeding sites in the swamps/wetlands by land reclamation or drainage of these habitats is mentioned in Addendum 2. However, possible land reclamation or drainage in these areas should be balanced against ecological and possible social and economic values of these wetland areas. Although island residents should have a stake in such a decision, this should not be decided entirely by them, as suggested in Chapter 4 of Addendum 2.

Recommendation: The EIA report should describe whether or not and to what extent land reclamation/drainage of the swamp areas could contribute to decrease the occurrence of dengue. If it does, alternatives relevant to land reclamation could be studied and impacts of the alternatives should be compared.

Table 7-3 at page 69, employment of the Viligili population, is not very clear. It seems to include people who originate from the island but are working elsewhere. It is not clear if it also includes the temporary foreigners and no distinction has been made between men and women. Also the source of the information is not mentioned.

Recommendation: Include a table describing the employment of the actual (or pre-tsunami) island **residents**, separating men and women, and indicating the source of information.

3.3 Chapter 11, Environmental Monitoring Program

The second interim monitoring report for the Vilufushi land reclamation recommends that “for similar projects, when a dredge as large as the Ursa is used, monitoring of suspended material and sedimentation will be carried out more frequently i.e. once every two days, in particular in monitoring locations close to the outlet of the reclamation area. This recommendation has not been followed in the set-up of the monitoring programme for the EIA of the construction of Viligili island.

Recommendation: Increase suspended solids and sedimentation monitoring frequency in such a way that recommendations given in the Second Interim Monitoring report for the Vilufushi land reclamation will be met.