

TABLE OF CONTENTS

	Page
1. Introduction	1
2. General opinion with regard to the EIS	2
3. Further observations	4

Appendices

1. Letter from DGIS¹] dated 30 October 1995, in which the Commission has been asked to submit and advisory review
2. Project information

1 The Directorate General for International Cooperation of the Ministry for International Cooperation

1. INTRODUCTION

A Dutch dredging contractors company has submitted a request for an ORET^{2]} grant for execution of a project for urban improvement in the central and south Guasmo Area in the city of Guayaquil, Ecuador. In addition to land reclamation the project comprises establishment of the basic infrastructure for an urban drainage system and the formulation of a Masterplan for the project area. The project covers an area of approximately 170 hectares with around 40.000 inhabitants.

The dredging activities that will be executed as part of the project will be undertaken by the HAM^{3]}, while a Dutch consulting engineers and architects company^{4]} will carry out the elaboration of a Masterplan, the design of the drainage system and the supervision of its construction. A local sub-contractor will execute the construction of the drainage works.

The 'Dirección General de Intereses Marítimos' (DIGEIM^{5]}) is the responsible authority for the implementation and management of the project. The daily counterpart of the Dutch suppliers will be 'Servicio de Dragas' (SERDRA), DIGEIM's executive agency for dredging and land reclamation projects.

Land reclamation is an activity which, according to OECD-standards (Organisation for Economic Cooperation and Development) and international loan agreement conditions, is subject to Environmental Impact Assessment (EIA). Objective of the EIA in support of this project is to provide both competent authorities in Ecuador and the Netherlands with relevant information on the environmental effects of the activity in order to foster an environmentally-sound, socially acceptable, economically feasible and well-informed decision making process.

The Commission for Environmental Impact Assessment in the Netherlands visited the project area in the period of 21 – 28 March 1995 and published her advice for Terms of Reference for this EIA on 13 April 1995.

By letter dated 30 October 1995 (see appendix 1), the Netherlands Minister for Development Cooperation has requested the Commission for EIA to advise on Review of the Environmental Impact Statement (EIS) for the project.

2 Ontwikkelings relevante export transactie
3 Hollandse Aannemers Maatschappij
4 Haskoning
5 Directorate General for Maritime Affairs

The advice has been prepared and will be submitted to the Netherlands Minister for Development Cooperation by a working group of the Commission for EIA. The working group consists of independent experts of Ecuadorean and Dutch nationality. The composition of this working group is presented in appendix 2 together with project information.

The EIS has been reviewed on the basis of the Terms of Reference, determined by the DGIS in conformity with the advice submitted by the Commission.

In the process of review of the EIS, the shortcomings found by the Commission have been discussed on an informal basis with the DGIS and HAM/Haskoning. The discussion has led to the agreement that supplementary information should be given by HAM/Haskoning on the following subjects:

- ! justification of the filling height;
- ! geotechnical data on the area to be filled;
- ! the probability of chemical pollution of the fill area and the 'Esteros';
- ! monitoring and evaluation;
- ! planning and phasing of follow-up activities of the Masterplan and the involvement of local authorities.

In the following paragraphs the Commission gives its final opinion about the EIS and the supplementary information as given by HAM/Haskoning.

2. GENERAL OPINION WITH REGARD TO THE EIS

The Commission has the opinion that the Environmental Impact Statement (EIS) offers much relevant information for decision making. Particularly the following aspects have been well worked out in the document:

- ! The quality of the fill material has been well analysed and described. This is of great importance as health hazard for the population living on the landfill is directly related to the quality of the fill material. All laboratory results are compared with the Dutch standards for soil quality. None of the samples exceeds the most stringent values mentioned in these standards.
- ! In general the dredging activities have been well described and the choices made with regard to the technical execution have been well motivated. The choice of the borrow area has been well motivated.
- ! Public involvement has conveniently been addressed in the EIS.

In the opinion of the Commission the EIS has shortcomings on a number of relevant subjects. The supplementary information adds little to the information in the EIS. The relevant subjects concern:

A) The land fill activity

- ! In the EIS it is not indicated where the return periods of 10 and 50 years, on which the filling height is based, stem from. It should have been indicated whether they represent standard return periods for Guayaquil. If this is not the case, the EIS should have indicated which authority fixed them and on which assumptions the choice of the length of the return periods is based.
- ! In the EIS the justification of the filling height (the calculation that relates the return periods to the filling height) is not given.
- ! The EIS indicates that for the bunds the geotechnical data will be collected in the design phase. Geotechnical data of the areas to be filled, however, have not been given in the EIS

nor has it been indicated that they will be collected in the design phase of the project⁶]. Availability of these data is important to determine the quantity of fill material necessary for every single location to be filled. If this information is not used during filling an undulating fill area may result which requires subsequently levelling.

Besides the extent of soil subsidence also its velocity should be known in order to determine with sufficient accuracy the moment on which construction of the drainage infrastructure may be initiated.

In case differentiation of filling height according to anticipated soil subsidence is not foreseen, levelling of the filled area will be necessary prior to construction of infrastructure. From the EIS it is not clear whether levelling works are foreseen in the project.

The Commission has the opinion that the lacking information has to be made available and offers to review the information, once it has become available.

B) Follow-up activities.

! Although asked for in the Terms of Reference, the EIS does not present information as to which competent authorities are involved in supervising project execution.

! Furthermore it is not made clear in the EIS in which way the local administration is involved in the planning and phasing of follow-up activities resulting from the Master plan. Moreover the EIS does not give information on further commitment of the local authorities regarding the maintenance of the drainage system and the execution of subsequent sanitation provisions

Within the scope of sustainable development the importance of such commitment needs to be emphasized.

6 The EIS indicates that soil subsidence in the fill area will be monitored after filling.

3. FURTHER OBSERVATIONS

- ! The EIS states that the central problem is the existence of deplorable living conditions as a consequence of inaccessibility of the area, absence of sewer collection systems, and more in general bad sanitary provisions. The bad sanitary situation is said to be illustrated by high incidence of cholera and other infectious diseases related to adverse sanitary situations. The Commission observes that the existence of this problem is not made clear in the EIS:
 - The EIS does not produce health statistics. No surveys were undertaken to accommodate these gaps in knowledge.
 - Most descriptions in the EIS of the accessibility of the area and the sanitary situation in place cover the complete area of Guasmo Sur. The situation in the project area has in general not been described separately. No comparison has been made with other areas in Guayaquil to illustrate the comparative importance of the problems in the project area.
- ! The positive effects anticipated in the EIS are not supported by quantitative data. Their realization by the project is not made plausible. A study of the positive effects of comparable initiatives in the area has not been undertaken, while this would have been possible for the case of Trinitaria and could have been done to support the statements on positive impacts.
- ! The extent and importance of the pollution in the fill area (especially soil, ground water and surface water [Estero Lagarto]) has not been assessed. However, the EIS (supplementary information) indicates that there are no registered industries in Guayaquil that drain their waste water in the Guasmo area, nor are there contaminating domestic industries in the area that drain their waste water in the existing drains. Therefore, the EIS does not anticipate a high degree of pollution with toxic chemicals or heavy metals in the area. Moreover the EIS states that it is probable that the pollution of the Estero Lagarto is mainly of organic origin. It is, however, recognized that the water quality of the Estero Lagarto and the Estero Cobina should be monitored and a monitoring plan to do so is proposed. This part of the monitoring plan is, as yet, not included in the project.
- ! The environmental policy on protection of the mangrove areas has not been described in the EIS. The conservation of mangrove areas in the estuarine system is important to control the potential devastating effects of flood waves.
- ! Design criteria for drainage activities have not been presented in the EIS. This information might be provided in the Masterplan or in a final design report.
- ! In the EIS (supplementary information) the Commission has found a monitoring and evaluation plan. It is said that the local contractor will be responsible for evaluation and monitoring in direct relation with the competent authorities.
The Commission advises to monitor and evaluate, besides the items indicated in the EIS, also project management and the achievements with regard to follow-up activities.