



Netherlands Commission for
Environmental Assessment

Advice on the terms of reference (structure) for the ESIA of the project Clean and Waste Free Bujumbura (CaWFB)

Memorandum by the NCEA

BURUNDI



28 October 2013



Advice of the Secretariat

To Ministry of Water, Environment, Land Management and Urban Planning,
Burundi

Attn Minister NDUWAYO Jean Claude

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DG SETEMU, Mr. MPAWENIMANA Paul
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From Netherlands Commission for Environmental Assessment (NCEA)
Mme. VAN BOVEN Gwen

Date October 28, 2013

Subject **Advice on the terms of reference (structure) for the ESIA of the project
Clean and Waste Free Bujumbura (CaWFB), October 2013**

By: the Secretariat of the Netherlands Commission for Environmental Assessment – Gwen van Boven/Ineke Steinhauer

Advice 2013-05

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1. Introduction

The Ministry of Water, Environment, Land Management and Urban Planning (MEEATU), the Municipality of Bujumbura, Burundi together with Dutch partners Aterro and HandsforWaste, are the proponents of the Clean and Waste Free Bujumbura (CaWFB) project, which aims to contribute to waste infrastructure and waste management for the city of Bujumbura. The project consists of several sub-projects that together form the integral infrastructure and waste management project:

- landfill;
- transfer stations;
- latrines;
- logistic infrastructure;
- departmental buildings.

The project proponents have applied for funding from the Dutch development fund ORIO to invest in this project. As part of the selection process, ORIO has asked the NCEA to screen the proposed project for the obligation to undergo Environmental and Social Impact Assessment (ESIA) according to national legislation. The screening result was positive: the proposed project needs to undergo an ESIA (see annex 1). In such cases, ORIO asks for an outline of the structure of the ESIA, before conducting the study itself. Similarly, Burundi has regulated the development of Terms of Reference for ESIA studies to be carried out.

In this context, the Ministry for the Environment in Burundi in coordination with the other project proponents has requested support from the NCEA to assess the quality of the documents that will be produced for the ESIA (letter with request attached in annex 2). The NCEA has accepted this request, as it sees the need for such a check by a party independent to the project, with the Ministry being both proponent and regulator at the same time.

As a first step, the NCEA has been asked to check a document called 'Draft ESIA' for conformity with national regulations (annex 3), in time for the project Steering Committee meeting on the 29th of October, in Bujumbura, Burundi.

1.1 Approach

Note 1: this advice is written in English while in Burundi, the working language is French. This is because all related project documentation has been made available in English only, and time was too limited for the NCEA to translate this advice in French in time for the Steering Committee meeting of the 29th. The NCEA urgently asks Handsforwaste to ensure translation during the meeting, as it has promised to do. A translation of the main conclusion (chapter 4) has been provided in this current version, and a full translation of the advice will follow shortly.

Note 2: the process of defining the outline of an E(S)IA study is usually called scoping, which results in an end-product called Terms of Reference (ToR). This is also the case in Burundi. A draft ESIA refers then to a non-finalised version of the actual ESIA study. To avoid confusion with the actual ESIA study, we will from now on refer to the document that is being assessed as 'Draft ToR' instead of 'Draft ESIA'.

Note 3: recently, when introducing standardised ToR for ESIA, Burundi started using Environmental and Social Impact Assessment (ESIA) instead of EIA. Although the related legislation has not yet been revised accordingly, for consistency purposes we will apply the term ESIA in the remainder of this document

As time for drafting this advice is very limited (one week), the NCEA had to limit the scope and approach of its advice. This advice is a so-called NCEA 'Advice of the secretariat', for which no external expertise was used at this stage. The Draft ToR was checked for conformity with Burundi's national ESIA requirements only.

In drafting the advice, use has been made of the following documents:

- ORIO 12/BI/02 Clean and Waste Free Bujumbura – Project Description document, for ESIA screening purposes (November 2012);
- NCEA screening on ESIA requirement for ORIO 12/BI/02, November 2012, by Gwen van Boven (November 2012);
- Legislation on ESIA: *Loi 1/010 portant Code de l'Environnement de la République du Burundi* (June 2000) and *Decrét 100/22 portant mesures d'application du code de l'environnement en rapport avec la procédure d'étude d'impact environnemental* (Octobre 2010) ;
- Legislation on scoping : *Décision Ministérielle 770/083 portant sur le cadrage dans procédure d'étude d'impact environnemental au Burundi* (January 2013) ;
- Standardised ToR for ESIA : *Termes de Référence fixe pour l'étude d'impact Environnemental et Social au Burundi – à adapter pour le projet* (August 2013).

Once the ToR for the ESIA will be finalised, a quality check of these ToR by the NCEA could also be considered. Furthermore, once the ESIA study has been carried out, the NCEA can be asked to conduct a review of the quality of the study. At that stage external experts (e.g. with expertise in waste management) will probably need to be involved.

In the following chapters, we first present the main conclusion of our findings in French (chapter 2) and in English (chapter 3). In chapter 4, we will elaborate in detail how we have come to this conclusion.

2. Conclusion (Français)

L'initiative des promoteurs du projet d'élaborer une EIES conforme aux exigences Burundaises pour la prise de décision des projets, correspond bien à l'intérêt du pays de renforcer son système de gouvernance environnementale. La pratique en EIES au Burundi est relativement jeune et un exemple de bonne pratique de l'exécution d'une EIES, et surtout pour un projet d'investissement public-privé, serait une contribution importante vers le développement d'expérience et de capacité pour l'EIES dans le pays.

La CNEE conclut qu'en élaborant le brouillon actuel des Termes de référence, les promoteurs du projet ne semblent pas avoir suivi le processus interactif de cadrage comme prévu dans le cadre réglementaire du Burundi. Ce processus inclut une concertation des parties prenantes, une visite de terrain et un focus sur les impacts principaux à étudier lors de l'EIES, ce qui rend les TdR spécifiques pour le projet.

Bien que la CNEE est de l'opinion que ce brouillon des TdR largement suit la structure comme prescrit par le Burundi, elle trouve que les TdR ne donnent pas suffisamment d'information pour instruire l'exécution de l'étude d'impact: ils laissent trop à interpréter sur les éléments précis à étudier, et comment. En plus, ceci rend les TdR inadéquats pour leur deuxième but: de servir comme cadre de vérification lors de l'examen de la qualité du rapport de l'EIES.

Une conclusion sur les impacts environnementaux et sociaux ne peut être tirée qu'après une révision des TdR et, dès que l'étude à été conclue, un examen de l'EIES. La CNEE reste disponible au Ministre et ses partenaires pour un appui à cet examen.

3. Conclusion (English)

The initiative by the project proponents to elaborate an ESIA conform the Burundi requirements for project decision making fits well with the country's interest to strengthen its environmental governance system. ESIA practice in Burundi is relatively young and a good practice example of conducting an ESIA, especially for a public-private investment project, would therefore be an important contribution to building experience and capacity for ESIA in the country.

The NCEA concludes that in elaborating the current draft ToR, the proponents do not seem to have followed the interactive scoping process as foreseen by Burundi legislation. This process would involve stakeholder consultation, site visits and a focus on the most important impacts to study, rendering the ToR project-specific. While the NCEA is of the opinion that the draft ToR largely follow the structure as prescribed by Burundi regulations, it finds that the ToR as yet provide insufficient information to instruct the execution of the ESIA study: it leaves too much room for interpretation on what to study, and how. This also makes the ToR unsuitable for its second purpose: to function as a means to review the quality of the ESIA report.

A conclusion on the environmental and social impacts can only be drawn after a revision of the ToR and, once the ESIA study has been conducted, a review of the full ESIA. The NCEA remains available to the Minister and partners to assist in executing this review.

4. Main observations

4.1 Conformity with national scoping procedure

Since January 2013, Burundi has integrated scoping as a step in the ESIA procedure, by means of a Ministerial Decision. In this Decision, scoping is explained as an interactive process, aimed at limiting the scope of the environmental (and social) impact study to those issues that are essential for decision making on the project. The process results in approved Terms of Reference which guide the ESIA and which will also facilitate the review of the quality of the study. To this end, as explained in Article 3 of the Decision, the ESIA administration makes available standardised Terms of Reference, to be adapted by the proponent for the project at hand. Article 4 then elaborates how scoping is to be

executed in order to render it project specific. This involves, among others, using the standardised ToR to develop a long list of possible impacts, and after consultation with the public and a field visit, bring this down to a selection of the most important impacts to be studied in the ESIA. These steps have also been incorporated in the standardised ToR, as part of the introductory text box 'procedure', as well as at the level of the identification of impacts (point 7 of the standardised ToR). Scoping is concluded when the proponent elaborates the project-specific ToR and submits them to the ESIA authority for formal approval. It is on this basis that the ESIA can be carried out and will be reviewed after finalisation.

The NCEA observes that the proponent has indeed made use of the available standardised ToR as made available by the ESIA administration, and has largely respected the proposed structure. However, this was done only for the sub-project of the landfill, and not for any of the other sub-projects. It is simply stated that the same structure will be used. Furthermore, the NCEA observes that for none of the sub-projects, the proponent has taken the next step of identification, priority setting and selection of impacts to be studied. It does not become clear whether relevant stakeholders have been consulted or not, in any case the results of such consultation have not been used in the elaboration of these draft ToR. This means that the ToR have not been made project or sub-project specific. Legally therefore, the scoping requirements for this ESIA have not yet been fulfilled.

As a consequence, the Draft ToR is very general and not specific for this project or for the different sub-projects, which are likely to have very different impacts. The risk is that too many aspects will be studied/described, which on the one hand may not be necessary (for example: transboundary impacts), and on the other hand may take away scarce time and financial resources from more important aspects to be studied. Another risk is that important impacts may be overlooked. An additional consequence is that Draft ToR will not be suitable as verification tool during review of the quality of that study.

- The NCEA recommends that the Terms of Reference for the ESIA for the CaWFB project be developed in conformity with the prescribed requirements for scoping in Burundi, as specified in article 4 of the Ministerial Decision on Scoping.
- The NCEA further recommends to apply the same process to come to a specified scope for study of impacts for each sub-project, including possible cumulative impacts of the different sub-projects. In the ToR, this will lead to sub-project instructions as of points 6 (impacts), 7 (measures), 8 (management plan) and, where applicable, onwards.

4.2 Procedure & language

Conform the national requirements for ESIA, the final draft ToR for the ESIA need to be submitted to the ESIA administration for verification and formal approval. After finalisation of the study, review of its quality will be done on the basis of these approved ToR, by the same administration: the Direction of Environment. The current Draft ToR does not indicate the intention to follow these procedural steps.

The standardised ToR (point 2: introduction), also ask for a specification of the decision or permit the proponent seeks to obtain by carrying out the ESIA. The draft ToR do not specify this, but instead mention that 'the decision or permit of the ministry is also added' (par. 4.2), implying that the project decision making has already been concluded.

- The NCEA recommends the proponent to respect these procedural steps and seek formal approval of the ToR as well as review of the ESIA study by the Direction of the Environment at MEEATU. As the working language in Burundi is French, it is recommended to elaborate the ToR and the ESIA in French, to facilitate the work of the administration.
- The approved ToR need to instruct the inclusion of the ToR in the ESIA report, in order to allow review of conformity of the study with the ToR (cf. point 10 of the standard ToR).
- The NCEA also recommends to align further decision making on the project site(s) selection and design aspects with the results of the ESIA, which implies waiting for approval of the ESIA report before making a final decision on project approval, site selection or design characteristics.

4.3 Description of the project and the alternatives

To be able to understand and appreciate the possible impacts of any investment project, a detailed description of the proposed project is required. If that basis of the ESIA is weak, the identification of impacts, the assessment of their importance, and the identification of mitigation measures in response to that assessment, cannot be carried out satisfactorily. This would render the decision-making basis for the project equally weak. The NCEA observes that currently, requirements for this chapter of the ESIA are very generally described and leave room for interpretation by the author of the ESIA.

- The NCEA recommends that the final ToR ask for a full description of the different project elements, starting with the presentation of the exact geographic location and outline on maps, a full technical description of the project in its different phases (pre-construction, construction, operation, rehabilitation) and for each sub-project, and an equally detailed description of possible alternatives. Project elements to be described have been outlined in the standard ToR provided by the administration (point 4 of the standard ToR).
- During discussions in Burundi the NCEA has regularly come across information related to the project that does not seem to have been included in the current description of the project. This refers to information related to the location of possible sites for the land fill, optional technology to be used for collection and recycling or composting of waste, and so on. It would be very useful to include this information in the ESIA to avoid duplication of work on the one hand, and overlooking possibly useful data on the other. The NCEA recommends identifying this information already at the level of the ToR, in order to ensure that it is taken into account during the actual ESIA study itself.

4.4 Methodology

The standard ToR specifically ask to prescribe the methodologies to be applied in order to analyse the existing situation, including the use of existing information, comparison with similar projects, the collection and measurement of missing data, and expert judgement. The NCEA observes that these methodologies have not been specified in the draft ToR.

- The NCEA recommends specifying the methodologies to be used in carrying out the ESIA, both at the level of the analysis of the existing situation and at the level of the evaluation of potential impacts of the project.

4.5 Developments without the project

The standard ToR ask for a separate description of the developments of the project zone without the project (point 6). This involves an inventory of other activities (on-going or approved) that could influence the project and as such, the feasibility or the design of the project. This aspect has not been included in the draft ToR.

- The NCEA recommends adding this chapter to the final ToR instructing the development of an inventory of other activities in the project zone(s), and their potential consequences for the project.

4.6 Selection and analysis of Impacts

As indicated above (see 2.1), for each sub-project, a short-list of most important impacts should be identified after consultation with relevant stakeholders and visit of potential sites. Given the limitations of this advice, the NCEA cannot provide detailed suggestions, but to give an example, here follow some considerations related to impacts common for the construction and operation of land fills. Similar selections of impacts to be studied need to be made for each of the sub-projects of the CaWFB, as well as for cumulative impacts of the entire project.

- *Waste composition*: the presence of elements such as heavy metals, chemicals, or other non-degradable elements would impact on the biological processes involved in waste decomposition. Waste composition will also determine the level of emission of green house gasses, in particular methane. As such, the suitable location and technical design to be used for the landfill will depend on the composition of the waste, which will therefore need to be studied in detail. Any residual impacts of hazardous elements will need to be mitigated.
- *Geology*: suitability of the site will depend on several characteristics of the soil and underground: soil composition, soil moisture/saturation and soil stability (excavations/slopes) will influence sensitivity for erosion, permeability, transmissivity and therefore suitability of the site. The presence of fault lines/dykes and seismic activity at or near the site also influence suitability. These soil characteristics in combination with the hydrology of the site determine the risk at impacts by filtration/ contamination of water sources, as follows:
 - *Hydrology*: characteristics of surface water, ground water and rainfall patterns will need to be known in relation to geological characteristics of the site, in order to understand potential risks of contact with ground and surface waters, potentially contaminating drinking water or water for irrigation, with associated health risks. Rainfall and geological characteristics may determine risks for mudslides and inundations, impacting again on surface and/or ground water sources
 - *Social impacts* are often related to the presence of people living *at the site* for the proposed landfill, for which appropriate relocation and compensation plans will need to be proposed; to people living *near the proposed site*, for whom health, smell and noise risks may occur, and to scavengers: people *making a living* on the waste dump, a security, health and income generation issue.

4.7 Gaps

In Burundi, very little recent and very little quantitative baseline information is available when it comes to hydrological information and geological data. Likewise, biological, social or socio-economic

data often are insufficient: incomplete, mainly descriptive or out-dated. The NCEA notes that the draft ToR does include a list of parameters to be studied (in 4.5), but does not yet identify gaps in information or specify what would need to be collected or developed by the project. Yet, these data are essential when determining the potential impacts of the project.

- The NCEA recommends the detailed identification of available and missing data, followed by a detailed sampling/collection protocol and monitoring plan for data that are essential to understand potential impacts of the project to be included in the ToR, as well as a justification for data that will not be feasible to generate or collect.

4.8 Measures and Management Plan

After proper identification of impacts and assessment of their importance, measures can be proposed to mitigate or compensate these impacts to acceptable levels. The draft ToR does include a section on the identification of measures (4.7) and the elaboration of a management plan (4.8), but in rather general terms. The standard ToR ask for much more precision and provide instructions on the presentation of the management plan.

- The NCEA recommends including in the ToR the outline of a table for the environmental and social management plan (ESMP), clearly showing the relations between impact-measures-practicalities of implementation, respecting the level of detail asked for in the standard ToR, including a specified and guaranteed budget and including a monitoring plan to follow implementation of the ESMP.

ANNEXES

With the “Advice on the terms of reference (structure)
for the ESIA of the project Clean and Waste Free
Bujumbura (CaWFB)”, October 2013

(Annex 1 to 3)

ANNEX 1

Selected projects ORIO Proposals as of November 2012

Screening reaction Netherlands Commission for Environmental Assessment

The NCEAs conclusions on the EIA requirements for the projects below cannot be taken as legal advice or substituted for a formal screening decision by the relevant local authorities.

ORIO12/BI/02 – Clean and Waste-free Bujumbura

Screening Situation: Screening on the basis of the Environment Law (*Code de l'Environnement de la République du Burundi, No 1/010 du 30/06/2000*) and the EIA decree (*Décret portant Mesures d'application du Code de l'Environnement en Rapport avec la Procédure d'Etude d'Impact Environnemental; No 100/22 du 07/10/2010*). The Burundian screening procedure is based on two lists which are presented in annexes to the EIA Application decree. Annex 1 presents the (categories of) activities for which an EIA is mandatory; Annex 2 lists the (categories of) activities for which an EIA may be required, upon decision of the Ministry for the Environment (MEEATU).

Conclusion: Annex 1, category 7, states: *'Les sites ou les installations de stockage et de traitement des déchets prévus par l'article 124 du Code de l'Environnement ainsi que les stations d'épuration des eaux usées en milieu urbain et des effluents industriels'*, or: sites and installations to stock and treat waste as foreseen in article 124 of the Environment Law, as well as water purification stations for urban and industrial waste water.

Based on this article, the NCEA concludes that this project must undergo EIA before a permit can be issued.

Note: in this case, it will be interesting to check the decision making procedures and confirm whether the SETEMU is the competent authority, as the proponent states, or the MEEATU which is ultimately responsible for sanitation. As the proponent explains under the heading 'applicant', the MEEATU has the final responsibility for the project. In that case, the competent authority (responsible for project approval) and the EIA authority (responsible for review and approval of the EIA) would be part of one and the same Ministry of Water, Environment, Land Management and Urban Planning, the MEEATU.

NCEA activities in Burundi:

- Since 2008, the NCEA supports national associations for environmental assessment in Central Africa, including Burundi. The programme aims to strengthen EIA systems in the participating countries and supports the associations in becoming national centre for knowledge and debate on EIA/SEA. The programme actively stimulated cooperation between the associations and the administrations responsible for EIA.
- In July 2011, the NCEA and the MEEATU have signed a protocol for collaboration over a three year period on the strengthening of the capacity of the Ministry, and specifically the

- Direction for the Environment, on EIA. The programme contains a range of training, coaching and advisory activities.
- Related to the proposed project: upon the initiative of the Director for the Environment of MEEATU, in April 2012 the NCEA has received at its offices the delegation from Burundi, Atero and Hands on Waste, headed by the Minister for Environment, Mr. Jean-Marie Nibirantije, to discuss the Land fill and EIA requirements. We have offered our services in terms of provision of advice on scoping (terms of reference) for the EIA, and/or review of the quality of the EIA report. In later separate meetings, both Atero/Hands on Waste as the Ministry have indicated interest in this involvement. An official request has not been received (yet) however. The request should be made by the responsible administration, in this case MEEATU.

Screening undertaken by: Gwen van Boven (gboven@eia.nl) 030-2347613

ANNEX 2

Letter with Request

REPUBLIQUE DU BURUNDI

Bujumbura, le 24/10/2013



MINISTRE DE L'EAU, L'ENVIRONNEMENT,
DE L'AMENAGEMENT DU TERRITOIRE
ET DE L'URBANISME

CABINET DU MINISTRE

N/Réf : 770/2238/CAB/2013

A Monsieur le Président de la Commission
Néerlandaise des Evaluations Environnementales
au
PAYS BAS

Objet : Demande d'appui technique

Monsieur le Président,

Tout en vous réitérant mes sentiments de gratitude pour l'appui apporté dans le cadre du Partenariat signé entre la CNEE et le Ministère dont nous sommes responsables, nous avons l'honneur de vous demander votre appui technique dans les préparatifs du **Projet Clean and Waste Free Bujumbura (CaWFB) financé par le programme ORIO**, lequel appui relatif aux avis et considérations sur les documents en rapport avec les Etudes d'Impact Environnemental et Social élaborés à cet effet.

Comptant sur votre habituelle compréhension, je vous prie d'agréer, Monsieur le Président, les assurances de ma considération très distinguée.

LE MINISTRE DE L'EAU, DE L'ENVIRONNEMENT,
DE L'AMENAGEMENT DU TERRITOIRE ET DE
L'URBANISME

Ir. Jean Claude **NDUWAYO**

CPI à :

- Monsieur le Ministre des Finances et de la Planification du Développement Economique au Burundi,
- Monsieur KERSTEN RENATE (renate.kersten@agentschap.nl) pour ORIO,
- Monsieur le Président de Handsforwaste (L.heijboer@handsforwaste.com),
- Monsieur le Directeur Général des Ressources en Eau et Assainissement et Président du CP du projet,
- Monsieur le Directeur Général des SETEMU.

ANNEX 3

Draft ESIA



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Environmental and Social Impact Assessment (ESIA)

for the project

Clean and Waste Free Bujumbura (CaWFB)

1 Introduction: why an ESIA for the project CaWFB?

The project CaWFB is a waste infrastructure and management project for the city Bujumbura, Burundi. The project consists of sub projects. All these sub-project together form the integral waste infrastructure and management project. For each part an ESIA will be described in the following chapters. The distinguishable parts are: landfill, transfer stations, latrines, logistic infrastructure and departmental buildings.

Both international guidelines (OECD and IFC) as well as national, Burundese regulations (see 4.3) require that the items of the project CaWFB are subject of an Environmental and Social Impact Assessment (ESIA):

The OECD (Organization for Economic Cooperation and Development) has developed a list of project-types for which an ESIA is necessary or desirable. (The category A projects).

Although the list is indicative and the types of projects it contains are examples, the list is very clear by mentioning examples which are also items of CaWFB:

- Waste-processing and disposal installations for the incineration, chemical treatment or landfill of hazardous, toxic or dangerous wastes.
- Municipal solid waste processing and disposal facilities.

In the following chapters the structure of the ESIA and the working out is described.

2. Draft structure of an ESIA for the project CaWFB

Basic structure: In 2013 the Ministry of MEEATU has published a document with Terms of References for an ESIA (annex 3). In combination with the specific regulations of the Code de Environnement, the “Décret d’étude d’impact” and in line with the OECD guidelines and the ORIO-template for the project plan, the draft will have the next basic-structure:

- Non-technical summary
- Introduction

- Context
- Description of the project and the alternatives
- Analysis of the existing situation
- Analysis of the development of the environment and social aspects without the project
- Impacts of the project
- Identification of measures
- Management plan
- Summary of the public consultation
- Gaps
- Presentation

This approach will lead to the working out of the sub-projects in chapter 4 and next.

3. Total Summary of ESIA-effects for the project CaWFB.

A distinguished but integrated infrastructure: as mentioned already in chapter 1 the project is characterized by dividing the total project in different infrastructural sub-projects: landfill, transfer stations, latrines, logistic infrastructure and departmental buildings. These elements are both geographical and for the type of activity/infrastructure distinguished in such a way that we have to elaborate a collection of ESIA's.

All these ESIA's together describe the infrastructural building blocks which are necessary to ensure the design and maintenance of an efficient waste infrastructure and the resulting chain of waste-activities (collecting, transporting and dumping/treatment of the waste).

For the collection of these partial ESIA's a total summary of SEIA-effects will be formulated in this chapter after all studies are accomplished. Goal is to have a total overview of the investigated aspects to decide on the best options.

4. Landfill

4.1 Non-technical summary

Concise summary description of the proposed sub-project, its rationale, the existing environment, the area of influence, significant environmental and social impacts, issues and opportunities, summary of key aspects of the Environmental and Social Action Plan, residual risks/issues, nature of the client/projects' systematic approach to managing the environmental and social aspects of the project including monitoring activities. Material information gaps or the need for further studies should be highlighted.

4.2 Introduction

The purpose of the ESIA, and the presentation of the guarantor. Also the title and the character of the project is described According annexes I and II of the decree, see annex ..). The decision or permit of the ministry is also added. For the realization procedures for adjudication of the

ESIA (tender etc.) are described.

4.3 Environmental and social context

Outline of the policy, legal background, strategy, programs, plans and administrative context of the landfill ESIA, summarizing the requirements of applicable regional/global conventions or agreements for environmental and social matters.

Burundi has a policy for the environmental matters. They also have a permit system. The Burundese Code d'Environnement (annex 1) and the Décret d'étude d'impact (annex 2) enumerates the following items which have to be subject of an impact assessment and which are also items of CaWFB:

- “Les travaux de construction d'ouvrages ou infrastructures publics tels que... sont soumis a la procédure de l'étude d'impact “(article 34 of the Code and nr. 1 of annexe 1 of the Decret
- “Les sites ou les installations de stockage et de traitement des déchets.....ainsi que les stations d'épuration des eaux usées en milieu urbain et des affluents industriels
« (article 124 of the Code and nr. 7 of annexe 1 of the Décret

4.4 Description of the project and the alternatives

Precise up-to date description and delineation of the proposed landfill within its geographical, environmental and socio-economic context. This should include information on whether and how the project is part of a wider development program including land use planning.

A systematic comparison of feasible alternatives to the project in terms of location, project technology or design in terms of potential environmental impact. This should include the 'do-nothing' option/an analysis of the development of the environment without the project . Where appropriate, a least-cost analysis of alternative forms of production should be conducted (for energy generation projects for example).

4.5 Analysis of the existing situation

A description/study of relevant aspects of the physical and natural environment, social and socio-economic conditions in the projects' area of influence which will serve as the baseline for impact assessment. Existing receptors and sources of impact should be described as appropriate.

4.5 .1 Physical environment

- Climatic Conditions
- Geomorphology and Geology
- Land Use and Settlement Patterns
- Landscape and Visual Issues

- Water Resources
 - Drinking water (quality, physic parameters as pH, temp, pollution parameters etc)
 - Surface (quality, physic parameters as pH, temp, pollution parameters etc)
 - Groundwater (streaming direction, quality, including soil composition and quality)
 - Leachate (quality, physic parameters as pH, temp, pollution parameters etc)
- Air Quality and Existing Emissions Load
 - greenhouse gas emissions
 - other emissions
 - dust
- Noise, Vibration and odor

4.5.2 Biological environment

- Biological and Ecological Resources
- Biodiversity
 - Key Flora and Fauna
 - Habitats
 - Protected, Listed or Endangered Species

4.5.3 Social and socio–economic issues/studies

- Demography (population, trends, age/gender profiles, migration)
- Social Composition (ethnicity, clan/tribal structure, minority groups)
- Power Relationships and Governance Issues
- Conflict and Social Tension
- Land Ownership and Tenure
- Economic Activities (formal and informal sector)
- Education
- Population Health Profile
- Gender Issues
- Vulnerable Groups
- Cultural Heritage
- Community Health, Safety and Security

- Occupational Health and Safety
 - Dangerous disease propagation
- Labor Issues and Working Conditions

4.6 Impacts of the project

This section should identify and characterize positive and negative environmental impacts in terms of magnitude, significance, reversibility, extent and duration. The possibility for cumulative impacts should also be considered. Quantitative data should be employed to the extent possible. The chapter should also identify opportunities for environmental enhancement (and identify key uncertainties and data gaps / see H12).

Environmental and social impacts should be identified and characterized for relevant stages of the project cycle such as:

- Pre–construction phase
- Construction
- Operation & Maintenance
- Decommissioning or Closure and Reinstatement

Where third parties such as contractors are involved, their roles and capacity and the degree of control the project can exert over them should be considered.

Supply chain issues central to the project’s core functions should be considered where the resource utilized by the project is ecologically sensitive, or where low labour cost is a material factor related to project competitiveness.

Identify, analyze and evaluate the potential environmental and social impacts that could be associated with the proposed project and its feasible alternatives including those of an indirect and cumulative nature. Through a process of reasoned argumentation, impacts which are unlikely to arise or be insignificant should be discounted.

4.6.1 Environmental impact and issues

Pollution

Biodiversity

Sustainable Natural Resources Management

Regional and Transboundary impacts

Climate Change and Adaptation

4.6.2 Social Impacts and Issues

Community health and socio-economic impacts and issues are likely to occur over different time scales and may well be inter-related with each other and environmental ones; hence the need for integrated impact assessment.

Labour and Working Conditions

Population movements

Temporary or permanent acquisition of land, property, economic assets (see Involuntary Resettlement Guideline).

Migration into or out of area.

Economic

Impact on economic assets including land

Loss of employment

Employment creation – temporary as a result of construction, or permanent during operations

Potential indirect employment creation, for example through sub-contracting. (It is particularly important to look carefully at the potential impact on the informal sector. The informal sector is important as changes in this area can have significant consequences on the livelihoods of vulnerable people.

Community Health, Safety and Security

The ESIA may need to identify how the Project could influence the health of the affected communities. There are a number of effects that need to be considered:

- Potential for increased incidence of communicable diseases
- Environmental conditions created by Project which may lead to deterioration or improvement in health
- The impact of the Project on access to health care. Would the project lead to severance from health care facilities.

It is important that there is initial baseline information on the health situation of the community within the area of impact. This will enable changes in health condition to be more accurately measured and attributed.

Education

The impact of the Project on access to education facilities. Would the project lead to severance from education facilities.

Are there opportunities for education facilities to benefit from the Project?

Conflict and social Tension

Projects related to the development and use of resources can often lead to creation of tensions within and between communities; particularly in situations where the affected population is characterized by low levels of economic development and there is a struggle for access to resources. Using the information on socio-economic characteristics and social dynamics, the base line should look at whether there is a need to carry out a detailed conflict analysis. Issues to consider include:

- What interests do the different stakeholders have and what are their relations to each other
- Potential sources of conflict between different stakeholders
- Will the project have an impact on the distribution of resources?

The ESIA needs to aware of existing social and economic tensions and the potential for the project to create a situation where these tensions may be exacerbated leading to creation of conflict.

Gender

Social impacts are often experienced very differently between men and women. Rather than carry out a separate gender analysis, the aim of the ESIA should be to mainstream gender so that it is considered in all stages of analysis. In certain circumstances a project may adversely impact men rather than women, due either to the nature of the project or the socio-cultural and economic context of a society. What is important in a gender analysis is to understand the differential impact on men and women.

Questions that need to be asked include:

- What are men and women's social and economic roles in the impacted area?
- Will the project impact adversely on men and women's social and economic roles
- What institutional arrangements have been made for consulting with women?
- Are there equal opportunities for both men and women to benefit from the Project?
- Are there barriers to women's participation and how can they be overcome without creating tensions within the community.

4.7 Identification of measures

Proposal of measures to prevent or reduce the negative aspects to an acceptable level or eliminate of the project, also for the alternatives. An estimation of the costs of these measures is described. When possible mitigated measures will be taken.

4.8 Management plan

This section outlines the feasible cost-effective measures to prevent or minimize environmental impacts to acceptable levels and address other environmental issues such as the need for worker health and safety improvements, inter-agency coordination, community involvement, institutional strengthening or training within the executing agency/ governmental agencies/project sponsor or at the community level. It should also outline measures which would enhance environmental aspects within the area affected by the project. The chapter should characterize the nature of any residual environmental impacts or issues that have not been addressed.

- Pre-Construction Phase
- Construction Phase
- Operation and Maintenance
- Decommissioning or Closure and Reinstatement

With regard to social issues, mitigation measures should be developed in relation to policy frameworks, both domestic and/or international. Domestic policy frameworks could be national or local government level, for example where a country has a poverty reduction strategy in place, or where policies are being developed with regard to agricultural development. It may relate to development of other infrastructure such as roads or energy supply improvements. Particularly in the case of education and health it is important that mitigation measures are linked to public sector provision in order to maximize positive impact and ensure sustainability.

4.8.1 Residual Impacts and Risks (and how to manage)

The nature of key residual impacts should be described and the significance assessed.

Environmental risks such as the potential for accidents and incidents to arise should be considered. Proposed contingency planning and measures should be described and their adequacy evaluated.

Social risks are very context specific and could include factors such as:

Economic changes such as inflationary trends.

Political changes which may make it difficult to implement particular mitigation measures.

Unforeseen events such as natural disasters.

Lack of skilled people to implement mitigation measures.

4.8.2 Environmental opportunities for project enhancement

- Habitat enhancement
- Set-aside
- Site Remediation and Clean-up
- Energy and Resource Efficiency
- Cleaner Production
- Institutional Strengthening
- Capacity Building

4.8.3 Social opportunities for project enhancement

Whilst social impact assessments are generally concerned with mitigation of negative impacts, they also present an opportunity for impacted people to take advantage of and benefit positively from the Project. Areas of benefit may include:

- temporary and permanent jobs within the Project
- opportunities for local firms to sub-contract services
- opportunities for local firms to supply goods
- in cases where relocation is required there may be opportunities to improve the housing condition of people relocated.
- project may be able to link up with local schools to create opportunities for learning

In exploring the strategy for development opportunities, particular attention needs to be given to vulnerable categories within the area of impact. Unless very specific measures are taken, they are likely to be excluded from development gains. It is important to remember that particularly with this group of people, participatory or community demand driven approach to will not necessarily ensure that they are included in the benefits. Moreover, special measures may be required to enable certain categories to take part in activities, for example employment of disabled people may require the setting of special facilities.

4.8.4 Action Plans and Management Systems

Management plans, programs and systems to address in an integrated and comprehensive fashion environmental and social impacts, issues and opportunities should be established with clearly stated outcomes or targets, timeframes, responsibilities and resources required. The Plan needs to embrace adaptive management and include appropriate monitoring activities to ensure that:

- mitigation measures are effective
- unforeseen negative impacts or trends are detected and addressed
- expected project benefits or opportunities are achieved

Monitoring should focus upon key indicators of project performance and social and environmental impact. Indicators should be aligned to elements of the existing pre-project baseline and be specific, measurable, achievable, relevant and conducted at an appropriate frequency.

Provision also needs to be made for:

capacity building such as training of project staff or third parties (if appropriate contingency and emergency response plans and measures (including adequate resourcing)

4.9 Summary of the public consultation.

Includes:

- the methods for information and consultation the involved parties
- a summary of the informed and consulted parties
- the results of the public consultation

4.10 Gaps

Describe which aspects are not (sufficient) known and can't be predicted; including the reason of that gap.

4.11 Presentation

- Source information
- Appendices
- Names of those responsible for preparing the EIA
- References and Sources of Information
- Records of public meetings and consultations held
- Supporting Technical Data
- Photo Log
- Charts, drawings etc.

5 Transfer stations

Same structure as in chapter 4 will be used

6 Latrines

Same structure as in chapter 4 will be used

7 Logistic infrastructure

Same structure as in chapter 4 will be used

8. Departmental buildings

Same structure as in chapter 4 will be used

9. Conclusions