

Intended for

Bugesera Airport Company Limited

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NEW BUGESERA INTERNATIONAL AIRPORT ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REPORT- CUMULATIVE IMPACT ASSESSMENT

CONTENTS

19.	CUMULATIVE IMPACT ASSESSMENT	1
19.1	Introduction	1
19.2	Policy, Regulatory and Administrative Framework	1
19.3	Existing, Planned or Reasonably Defined Developments	2
19.4	Cumulative Impact Assessment Methodology	6
19.5	Management of Cumulative Impacts	8
19.6	Conclusions	9

LIST OF TABLES

Table 19-1: Scoping Criteria for Inclusion of VEC's in the CIA	7
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LIST OF FIGURES

Figure 19-1: Proposed Land Use Plan	4
Figure 19-2: Future Special Economic Zone (Source: Google Earth, 2012)	5

19. CUMULATIVE IMPACT ASSESSMENT

19.1 Introduction

The assessment of cumulative impacts is a long established requirement for any comprehensive ESIA. For the purposes of this Proposed Project, the IFC Performance Standards and IFC Good Practice Note: Cumulative Impact Assessment and Management Guidance for the Private Sector in Emerging Markets¹ have been used as a primary reference source.

IFC PS1² defines cumulative impacts as:

"...impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted".

The impacts of the Proposed Project thus need to be considered in conjunction with the potential impacts from other future developments or activities that are existing, planned or reasonably defined, and are located within a geographical scope where potential environmental and social interactions could act together with the Proposed Project to create a more or less significant overall impact.

19.2 Policy, Regulatory and Administrative Framework

19.2.1 IFC 2012 Performance Standards on Environmental and Social Sustainability and Guidance Notes

IFC PS1: Assessment and Management of Environmental and Social Risks and Impacts recognises that in some instances, developers need to consider cumulative impacts in their environmental and social impact and risk identification and management process.

IFC PS1 states that the impact and risk identification process:

"will take into account the findings and conclusions of related and applicable plans, studies, or assessments prepared by relevant government authorities or other parties that are directly related to the project and its area of influence" including "master economic development plans, country and regional plans, feasibility studies, alternatives analyses, and cumulative, regional, sectorial or strategic environmental assessments where relevant."

Furthermore, it goes on to state that:

"the client can take these into account by focusing on the project's incremental contribution to selected impacts generally recognised as important on the basis of scientific concern or concerns from the Affected Communities within the area addressed by these larger scope regional studies or cumulative assessments".

Guidance on the interpretation of IFC PS1 is provided in the Guidance Note 1 to the IFC Performance Standards³. Relevant text from this Guidance has been summarised below:

"GN41. Paragraph 9 of Performance Standard 1 requires that...the risks and impacts identification process...identifies and assesses cumulative impacts from further planned development of the project and other project-related developments, any existing project or condition whose impacts may be exacerbated by the project, and other development of the same type that are realistically defined at the time of the risks and impacts identification process...The assessment should be commensurate with the incremental contribution, source,

¹ IFC Good Practice Note: Cumulative Impact Assessment and Management Guidance for the Private Sector in Emerging Markets

² IFC, 2012. IFC Performance Standard 1, Assessment and Management of Environmental and Social Risks and Impacts

³ IFC, 2012. IFC Performance Standard Guidance Note 1, Assessment and Management of Environmental and Social Risks and Impacts

extent and severity of the cumulative impacts anticipated, and be limited to only those impacts generally recognised as important on the basis of scientific concerns and/or concerns from Affected Communities.

GN42. In terms of anticipating future projects, priority should be given to assessing cumulative impacts stemming from the project being considered for financing, such as further planned developments associated with the project or other future developments of the same type in the projects area of influence that are realistically defined at the time of the assessment."

19.2.2 Good Practice Handbook: Cumulative Impact Assessment and Management; Guidance for the Private Sector in Emerging Markets

The CIA Good Practice Handbook⁴ was issued by the IFC in August 2013. This Handbook supplements the IFC PS1 and its Guidance Note, providing further guidance on the practical assessment of cumulative impacts, recognising some of the uncertainties and constraints faced by private sector proponents. It also introduces the concept of Valued Environmental and Social Components (VECs), which are environmental and social attributes that are considered to be important in assessing risk and can include:

- Physical features;
- Wildlife populations;
- Environmental processes;
- Ecosystem conditions (e.g. biodiversity);
- Social conditions (e.g. health, economics); or
- Cultural aspects.

19.2.3 African Development Bank Integrated Safeguards System Guidance Materials; Volume 1: General Guidance on Implementation of OS15

The above guidance is in line with IFC PS1 regarding cumulative impact assessments.

19.3 Existing, Planned or Reasonably Defined Developments

A number of sources were reviewed to establish whether there are existing, planned or reasonably defined developments that are located within a geographical scope where potential environmental and social interactions could act together with the Proposed Project to create a more or less significant overall impact. These include the Rwanda Environment Management Authority (REMA) register of developments and local development plans.

19.3.1 Rwanda Environment Management Authority Register

REMA maintains a register of developments that are being appraised under the national EIA requirements. REMA has confirmed that there are currently no existing, planned or reasonably defined developments located within the geographical scope of the Proposed Project where potential environmental and social interactions could act together with the Project to create a more or less significant overall impact on their list.

⁵ African Development Bank Group, 2015. Integrated Safeguards System Guidance Materials - Volume 1: General Guidance on Implementation of OS 1

19.3.2 Local Urban Development Plan of the Bugesera Airport Belt⁶

The Local Urban Development Plan of the Bugesera Airport Belt acknowledges the intention to develop the Proposed Project and outlines proposed development plans for the area surrounding the Proposed Project, including a development referred to as the Aerotropolis and a Special Economic Zone (SEZ). The development plan indicates that the Aerotropolis would include:

- Retail complexes;
- Sports and recreation facilities;
- Commercial areas including business parks;
- Manufacturing and industrial areas;
- Residential areas; and
- Transport upgrades.

A SEZ is included in the development plan to follow the development of the Aerotropolis. The SEZ would be approximately 1,500 ha and comprise areas zoned for commercial and light industry and an entertainment area, including hotels, general entertainment and a theme park. A proposed land use plan for the region is presented in Figure 19-1 and the outline plans for the Aerotropolis and SEZ are shown in Figure 19.2.

There are no timeframes for the development of the Aerotropolis or SEZ included in the development plan. Furthermore, GOR officials at MININFRA have indicated that the development of the Aerotropolis and the SEZ will depend on the successful development of the Proposed Project and must be further integrated with urban planning at the district level. As such, it can be assumed that the construction of the Aerotropolis and SEZ will not start before Phase 1 of the Proposed Project, and so no cumulative impacts would likely occur before then.

Given the uncertainty on the timelines and design details of these future developments, these do not constitute '*planned or reasonably defined*' developments as defined in IFC PS1. This chapter therefore only presents an outline cumulative impact assessment (CIA).

19.3.3 Future Extension of the Proposed Project

There is potential for an extension of the Proposed Project to accommodate a second runway, should this be considered necessary in the future. However, there is currently no commitment to undertake such an extension. It is also anticipated that such an extension would need to follow an environmental impact assessment process in the form of an addendum to this ESIA or as a separate ESIA for the extension. The operational airport would form the baseline for any extension development.

⁶ Manim & Arba Company Ltd (not dated), Elaboration and Implementation Strategies of the Local Urban Development Plan of Bugesera Airport Belt.

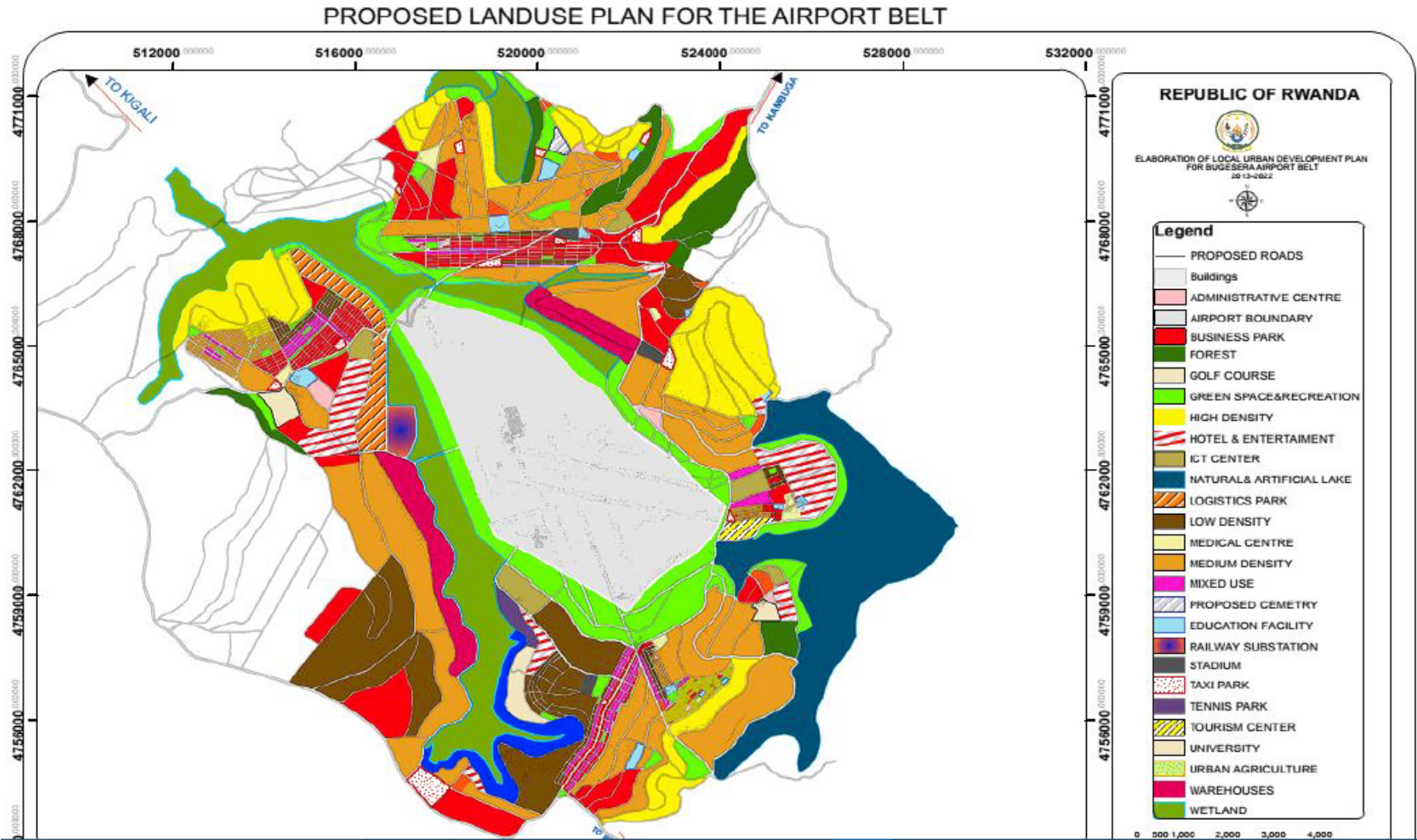


Figure 19-1: Proposed Land Use Plan

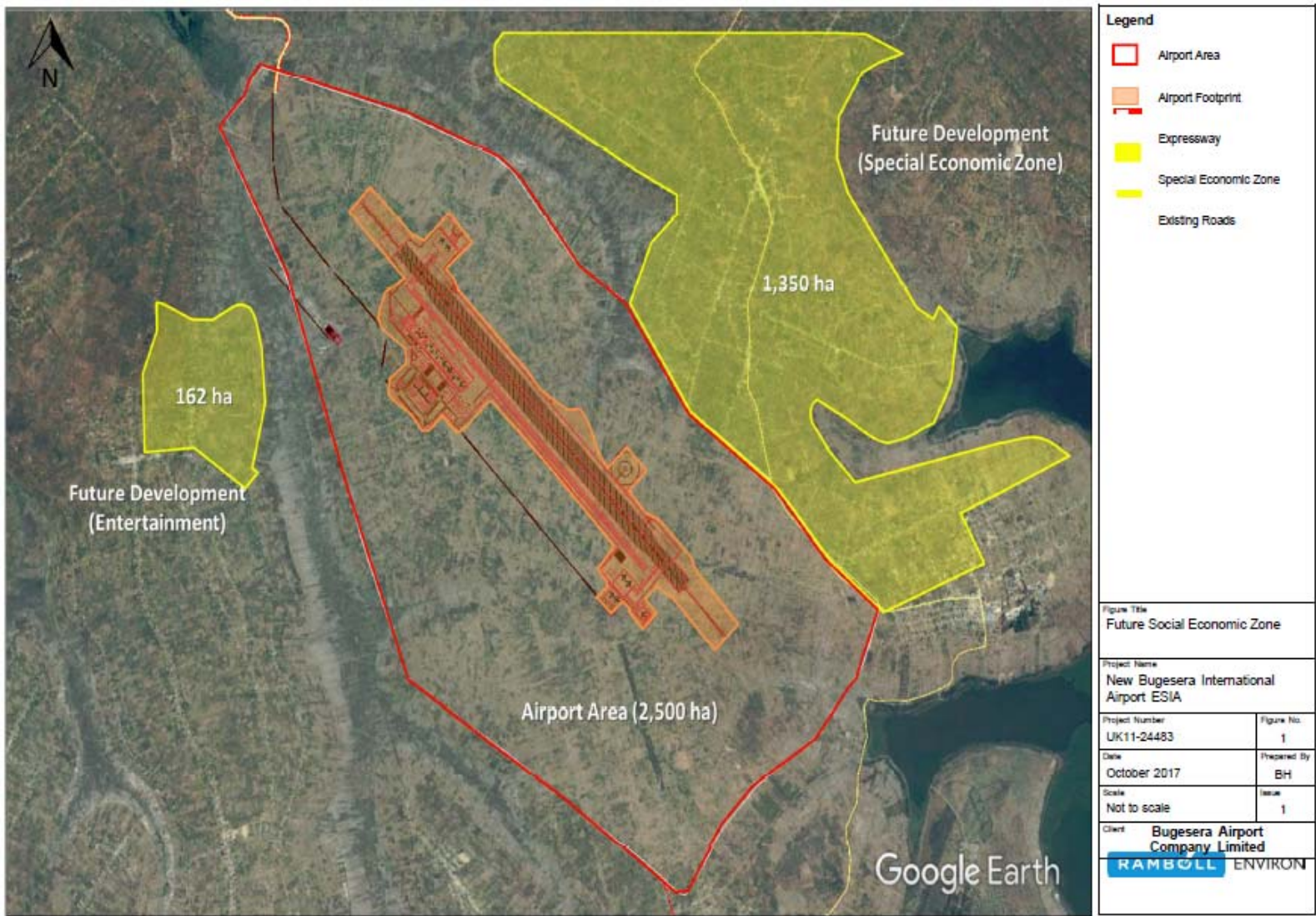


Figure 19-2: Future Special Economic Zone (Source: Google Earth, 2012)

19.4 Cumulative Impact Assessment Methodology

Should a cumulative impact assessment (CIA) be required for the Aerotropolis and/or SEZ, the methodology to be adopted would take into account current and established good practice. The approach would be primarily based on the 2012 IFC Performance Standards, as well as on the following six step process detailed in the IFC CIA Handbook:

- Scoping Phase I – identify VECs, spatial and temporal boundaries;
- Scoping Phase II – other activities and environmental drivers;
- Establish information on the baseline status of VECs;
- Assess cumulative impacts on VECs;
- Assess significance of predicted cumulative impacts; and
- Management of cumulative impacts – design and implementation.

The CIA would draw upon primary data collected specifically for the Proposed Project and secondary data from a desk review of available literature. A significant amount of primary data has been collected for the purpose of this ESIA, providing detailed information within the Proposed Project AOI. Outside of the Project AOI, at the wider regional level, greater reliance would be placed on secondary data sourced from publicly available documentation.

19.4.1 Scoping Phase I: VECs, Temporal and Spatial Boundaries

The first stage of the RCIA would be to identify potential VECs and define the spatial and temporal boundaries.

19.4.1.1 VEC Identification

VECs are those prevailing environmental and social conditions within areas that are potentially impacted by the Proposed Project (during all phases). VECs have been identified through the ESIA process, including through the engagement activities with applicable stakeholders (as detailed in Chapter 7: Stakeholder Identification and Engagement) and through reviews and assessments undertaken by relevant specialists as part of the ESIA.

Consistent with the guidance, the CIA would be limited to impacts generally recognised as important on the basis of scientific concerns and/or concerns from Affected Communities and exclude any potential impacts that would occur without the Proposed Project or independently of the Proposed Project. In addition, only those environmental/social receptors on which the Proposed Project itself is assessed to have potentially significant effects (i.e. impacts following the application of mitigation measures as detailed in this ESIA Report), would be included in the CIA.

Thus VECs, for which there is a Proposed Project residual impact that is deemed to be insignificant in this ESIA, would not need to be included in the CIA in accordance with IFC CIA guidance note⁷. Where VEC residual impacts are defined as being Medium or High Adverse, these would be scoped into the CIA. For VEC residual impacts that are defined as being Minor Adverse, the applicable VECs will be subject to further evaluation to see if there is scope for cumulative impacts to be generated (Table 19.1). This would take into account the following considerations:

1. Proposed Project impacts to each social and environmental VEC as identified in the technical assessment Chapters 8 to 18 in order to identify the potential for the Proposed Project to materially contribute to cumulative impacts;

⁷ IFC, 2012. IFC Performance Standard 1, Assessment and Management of Environmental and Social Risks and Impacts

2. Consideration of the spatial extent of the VEC in the region;
3. Consideration of how the spatial extent of the receptor may overlap with both the Proposed Project's AOI and the influence of other cumulative developments identified through the Phase II Scoping Process (described below); and
4. Consideration of the relative temporal boundaries of the different stressors (e.g. whether or not stressors are concurrent, consecutive, etc.) and the duration of such impacts.

Table 19-1: Scoping Criteria for Inclusion of VECs in the CIA			
Residual Impact			
Not Significant	Minor	Moderate	Major
Scoped out of CIA	Scoped out on a case-by-case basis, based on the potential for such effects to act cumulatively with other non-Proposed Project influences	Scoped into CIA	Scoped into CIA

The above aspects would be recorded and, through consideration of the above points, those receptors that are considered as VECs within the CIA would be identified.

A summary of the VECs that have been considered within this ESIA, and thus within the CIA, would comprise the following:

- Physical (i.e. non-living environmental components, including air quality, water bodies, landscapes, terrestrial soils and geology);
- Terrestrial ecology (i.e. terrestrial habitat, flora and fauna); and
- Human (i.e. landowners and residents of local communities, local economy, cultural heritage).

19.4.1.2 Temporal and Spatial Boundaries

This phase of the assessment would also require setting temporal and spatial boundaries of the CIA for specific VECs.

The duration of impacts considered on VECs is the lifetime of the Proposed Project, including the Proposed Project construction and operation phases. It is noted that there are limitations and a degree of uncertainty in the current knowledge of other (non-Proposed Project) activities and drivers that may lead to additional influence on the VECs at different stages of the Proposed Project lifetime.

The geographic boundaries of the CIA would be defined taking into account the Proposed Project characteristics (Chapter 6: Proposed Project Description) and the assessment areas applied to defined VECs as included within the various technical assessments (Chapters 8 to 18). A flexible approach would be maintained, such that the geographical boundaries of the CIA vary depending on the characteristics of the potentially impacted VEC. The geographic boundary would thus vary from the space occupied by a small VEC feature (e.g. a discrete feature of cultural heritage value) to a larger geographic region or habitat within which a particular VEC habitat occurs (e.g. habitat occupied by a protected species). The spatial extent of relevant VECs is detailed in the various technical assessments as presented within this ESIA Report.

19.4.2 Scoping Phase II: Other Activities and Environmental Drivers

Scoping Phase II identifies the historical, existing and planned (or reasonably defined developments) with the potential to affect the VECs identified in Scoping Phase I that would require further assessment within the CIA. If the Proposed Project is able to interact with such developments (temporally and/or spatially), the Proposed Project may be able to exert a potential cumulative impact.

In accordance with the IFC CIA Guidance, natural influences/stressors that exert an influence on VEC condition, but are unrelated to the Proposed Project activities, would also be considered.

19.4.3 Establishing Information on the Baseline Status of VECs

Defining the baseline characteristics of VECs is an important stage in the CIA process, as this identifies their sensitivity to change. Available baseline data have been gathered for the identified VECs as part of the ESIA and as described in Chapter 8 - 18. These would be supplemented, where relevant.

19.4.4 Assessing Cumulative Impacts on VECs

This step of the CIA would consider the cumulative impacts on VECs. An assessment would be undertaken to evaluate the potential for the Proposed Project to interact with other historic, existing, planned or reasonably defined developments in such a manner that gives rise to a cumulative impact (where the temporal and spatial influences may coincide).

The predicted future condition of VECs would be assessed taking account of stressors and the Proposed Project's contribution to the overall cumulative impact.

19.4.5 Assessing Significance of Predicted Cumulative Impacts

The assessment of impact significance would be undertaken in line with the methodology described in Chapter 3: Impact Assessment Methodology.

19.4.6 Management of Cumulative Impacts – Design and Implementation

Many of the mitigation measures identified within Chapters 8-18 would likely be applicable to the mitigation of cumulative impacts. However, it is also recognised that the CIA may identify potential cumulative impacts of Moderate or Major significance, which may require additional mitigation or management actions (or monitoring) beyond those which have been developed for the Proposed Project-induced impacts as reported within this ESIA Report.

Consistent with the approach taken in the ESIA of the Proposed Project and described in Chapter 3: Impact Assessment Methodology, the mitigation hierarchy, which broadly requires that consideration be given to avoidance, minimisation, mitigation and offsetting in that order of preference, would be applied.

19.5 Management of Cumulative Impacts

Mitigation of cumulative impacts would be required at both the local development scale, under the responsibility of the individual developers, and at the regional scale for the management of VECs. The primary mechanism for regional-scale management of VECs should be through strategic regional development assessment and planning, which would typically be the function of the relevant government authorities.

In line with IFC PS Guidance Note 1, BAC would use commercially reasonable efforts to engage relevant government authorities, and other developers, Affected Communities and, where appropriate, other relevant stakeholders, in the design and implementation of coordinated

mitigation measures to manage any potential cumulative impacts identified following the results of the CIA.

19.6 Conclusions

Given the uncertainty on the timeline and design details of the proposed Aerotropolis and SEZ developments, only an outline CIA was undertaken. It is anticipated that any significant cumulative impacts arising from the development of these projects would be appropriately mitigated in line with national and international standards and good international industry practice. Notwithstanding, should more detail become available on the timelines and design of these developments, and potential cumulative impacts identified, a CIA would be undertaken following the methodology presented above.