

**Comments on
the Environmental Impact Assessment (EIA) Report
on the Roches Noires Smart City Development
by PR Capital Ltd
(282462/EIA/VM/01)**

By Platform Moris Lanvironnman



10 November 2023

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STATEMENT OF CONCERN

The Director of Environment

Ministry of Environment, Solid Waste Management and Climate Change

10 November 2023

Dear Sir,

**PUBLIC COMMENTS AND STATEMENT OF CONCERN IN RESPONSE TO A NOTICE
PUBLISHED UNDER SECTION 20 OF THE EPA ON 31 AUGUST 2023 IN RELATION TO EIA
REPORT BEARING REFERENCE 282462/EIA/VM/01**

We the undersigned, are hereby submitting our public comments to the application submitted by PR Capital Ltd dated 31 August 2023 (“PR Capital”) for the grant of an EIA Licence for the Smart City Development at Roches Noires.

Our public comments are made in our capacity as residents of Mauritius with an interest in the site on which the Project is intended to be developed (the “Site”). We verily believe that the grant of the EIA License applied for would aggrieve and cause undue prejudice to us, to the local community of Roches Noires and to the people and environment of our island at large.

Our public comments are based on our thorough analysis of the EIA Report, our extensive knowledge of issues raised in the EIA Report as active members of Platform Lanvironnman as well as that of professionals who we have consulted with.

PML is of the opinion that the EIA report on the proposed Smart City Development is severely flawed and specifically fails to conform with Section 18(2) (d) to (o) of the Environment Protection Act (2002) as subsequently amended.

Our public comments which are, in substance, in the nature of objections to the project constitute our statement of concern for the purpose of S.54.2(c) of the EPA.

We use the conceptual and policy tool of a **Mitigation Hierarchy** to scrutinise many of the claims made for this project. We believe that the most desirable option is to **avoid conversion of this forest land into an urban area, rather than attempt to minimise impact which it cannot as it implies deforestation to implement an urban development project.**

We assess whether the project has a risk-based approach, applied to this Site: We are living through a climate emergency, disruptive change, permacrises. With increasing and complex risks and vulnerabilities: flash floods, droughts, water stress, coastal erosion, health impacts. Climate will become a more direct driver of changes in nature and its contributions to people. And adapting to and mitigating climate change is more likely to succeed through nature-based solutions.

We contend that we are compelled to look at everything always through the lens of best practice in terms of adaptation and building resilience.

This project is a prime example of destructive **MALADAPTION**.



Sandhya Adi Teelock

Mrinalini Burn Teelock

For Platform Moris Lanvironnman (PML)

Introduction

1.1 An Environmental Impact Assessment Report was submitted by PR Capital Ltd (thereafter referred to as the Promoter) on 31 August 2023 on a proposed Smart City Development Project at Roches Noires over an area of approximately 358 Ha.¹

1.2 The EIA Report describes the Roches Noires Smart City thus (thereafter referred to as RNSC): “*The master plan for the whole RNSC occupies an area of approximately 358 Ha located in the currently undeveloped land adjacent to the coastal residential zone and the village of Roches Noires.*

The RNSC project is planned to be implemented over a 10-year (2032) phased development program which will reflect market demand and construction requirements under the Smart City Scheme (thereafter referred to as SCS). It is aimed at establishing a new residential and economic centre for the northeast of the island and integrating the environment / existing landscaping into the development to create a lifestyle living / Communal Living Space centred around the unique landscape scenery of Roches Noire.” (Non Technical Summary).

1.3 It is recalled that PML has sent concerns and objections to the previous EIA. We now have a second one for the entire RNSC which includes fresh information. We are somewhat comforted that this EIA was mandated by the Ministry of Environment because of the “sensitivity” of the site. We note that the requirements to submit an EIA as per the Environment Protection Act have been strengthened as regards climate change related risks and mitigation measures (adaptation and mitigation) See Box 1 at the end of this section.

1.4 Despite this heightened sensitivity, the EIA report failed to carry out and extend their baseline data acquisition to remedy to gaps that they themselves admitted in the first EIA report submitted. First among equals, the Promoters and their Consultants failed to recognise that the Site is a forest land and that their project as elaborated in the masterplan will result in a major

¹ EDB website accessed 4 October 2023 <https://tinyurl.com/2af87kpy>

deforestation with more than 90 percent of the land requiring clearing to accommodate the project. How could this project be sustainable? This clearly shows that the statements made in the EIA such as sustainability, sustainable, sustainability and their likes are mere rhetoric.

1.5 Despite the opportunity provided by the Authorities to remedy their project by allowing them to review their masterplan given the site sensitivity, the Promoters' insistence with the same masterplan and their failure to recognise the uniqueness of the Site is simply appalling. It is evident that ecological and environmental considerations of the Site are stranger to the intention of the Promoters, which is clearly stated under the 'Do nothing' Option:

20.1 'Do Nothing' Option

*"The 'Do Nothing' option would involve no development on the selected land. However, this option is not justified as the RNSC project is directly in line with the Smart City Scheme regulations 2015 and is located within the Eastern Development Tourism Zone. **The 'Do Nothing' option will also affect the economic health of PR CAPITAL, thus not envisaged. Land is under receivership and as such the bank require investment on the land to recoup the funds.**"*

1.6 PML is submitting detailed comments as exhaustive as possible on the EIA report. Based on information disclosed in the EIA report as well as other relevant sources of information, PML concludes that the EIA report is severely flawed and does not conform to the requirements of EPA (2002) as subsequently amended.

1.7 PML reminds that the Roches Noires Site has been the object of at least three proposed extensive Development Projects since 2006 and all have failed to materialise. The proposed RSNC is the fourth of its kind.

1.8 We express our concern over the fact that the Environmental Protection Act (EPA) has been amended in 2020 to bar any person from appealing to the Environment and Land Use Tribunal (ELUAT) against a decision regarding the issue of an EIA Licence if they have not submitted a Statement of Concern in response to a notice published under Section 20 of

the EPA (S. 54 EPA). We contend that this is a curtailment of constitutional rights of Mauritians to seek redress before the judiciary.

1.9 The Ministry of Environment has been informed that there is a missing report pertaining to hydrogeological conditions in Chapter 11 Geotechnical Investigation of the EIA report accessed through the e-licensing platform of the EDB on 4 October 2023 as stated in the said report. The MoE has confirmed the absence of this report and has informed us that a copy of the missing report will be sent to us as soon as it is received from the Consultants, and this report will also be made public. As at 10 November 2023, the said report has not been made public.

We reserve the right to send additional comments after the deadline for submission of comments after the report is made available to us.

1.10 The EDB, in its Letter of Comfort for the RNSC, requires the Promoter to “*protect all native species such as Bois D’Olive, Bois D’Ebene blanc, Bois d’Ebene Marbré amongst others and the habitat to several native fauna species to the satisfaction of the Forestry Services.*” The EDB fails to recognize that the Site is a coastal forest land and contains what could be well the last remaining and best relic coastal forest in Mauritius.

1.11 This Project if implemented will be a major deforestation project with more than 90 percent of the land being cleared for the RNSC Project which includes the construction of a 40-villa hotel, a mixed-use commercial cluster (office, retail), a research and development cluster, 1,700 residential units, a plant nursery, a professional training academy, sports centre, 2 golf courses (9-hole and 18-hole) cannot be reconciled with core sustainable development principles.

1.12 Although there are several documented wetlands on the RNSC site, it is worthy of note that the EDB did not see it fit to include the issuance of a Ramsar Clearance as a condition to the issuance of a Smart City Certificate.

1.13 Furthermore, the EDB cannot be ignorant of the fact that the Roches Noires region has

several caves of importance in the vicinity of the RSNC Site and fails even to request a study on the presence/absence of caves within the RSNC Site as a condition of the Letter of Comfort. On the other hand, it is revealing that the EIA report fails to show explicitly all environmentally sensitive areas (ESA) not only within but in close vicinity of the Project Site, as required by EPA (2002) as subsequently amended.

1.14 Untested Government Policy for Roches Noires Smart City. Although there is an existing government policy for Smart City development under the Smart City Scheme, this policy is being severely tested with the RNSC through environmental, social and ecological constraints not having been evaluated as part of the policy formulation. The Smart City policy has not been the object of a Strategic Environmental Assessment (SEA) that would have recommended the most appropriate type of development that meets the environmental, social and economic objectives of the Site and its surroundings. Additionally, Azuri PDS, which is undertaking real estate cum Golf course development over 200 hectares, lies within a 2.5 km radius of RNSC. RNSC on its part proposes to develop a Resort Hotel, an extensive high density and low density residential development and two (2) Golf courses over 350 hectares. Yet, the zone has not been the object of a SEA.

1.15 We request that all additional information, including reports, pertinent to this EIA application be made public when they are received and a public notice published informing of same.

1.16 We again submit that the period of 21 days allowed to the public to send comments to EIA Reports is not only too short but also a severe constraint on the ability of citizens to exercise their right to participate actively in the development of the country.

1.17 We note that the request of NGOs (joint email sent on 9 October 2023) to the Minister to extend the deadline to eight weeks in an email to the MoE was not acceded to as the Minister extended the deadline to six weeks and not eight; this has imposed a heavy burden on the NGOs with the consequence that the comments do not cover all aspects of the report.

1.18 This report is organised as follows:

We provide our comments by each chapter/section of the EIA Report. The constraints of time preclude us from consolidating our individual comments, which do complement each other and we incorporate those of other experts consulted. The separate expert comments are in the annex.

In our conclusion in each comment chapter, we succinctly summarise the grounds on which we object under each of the requirements of part IV of the EPA (2002) as subsequently amended.

We also point to alternatives for the site which would better facilitate the implementation of plans and achievements of key national targets regarding interlocking climate, biodiversity and disaster risk reduction and management agendas.

Box 1: See next page

ENVIRONMENT PROTECTION ACT. Act 19 of 2002 – 5 September 2002 *(unless otherwise indicated)*

(2) The EIA report shall contain a true and fair statement and description of the undertaking as proposed to be carried out by the proponent, and shall include—

(e) the principle, concept and purpose of the undertaking;

(f) the direct or indirect effects that the undertaking is likely to have on the environment;

(fa) such data as may be necessary to identify and assess the effects that climate change may have on the undertaking; [Inserted 11/2020 (cio 22/4/021).]

(fb) the measures which the proponent proposes in order to mitigate the adverse effects that climate change may have on the project; [Inserted 11/2020 (cio 22/4/021).]

(fc) any action or measure that the proponent proposes to promote the use of alternatives, best available techniques and environmental practices to minimise the use, release and emission of hazardous substances, including mercury; [Inserted 11/2020 (cio 22/4/021).]

(g) an assessment of the social, economic and cultural effects which the undertaking is likely to have on the people and society;

(h) any action or measure which the proponent proposes to take to avoid, prevent, change, mitigate or remedy, as far as possible, the likely effects of the undertaking on the environment;

(i) an assessment of the inevitable adverse environmental effects that the undertaking is likely to have on the environment, people and society, where it is implemented in the manner proposed by the proponent;

(j) an accurate assessment of the irreversible and irretrievable commitment of resources which will be involved in the undertaking, where it is implemented in the manner proposed by the proponent;

(k) any alternative manner or process in which the undertaking may be carried out so as to cause less harm to the environment;

(l) an environmental monitoring plan;

(m) information pertaining to the decommissioning of the project at the end of its life cycle and associated impacts, proposed measures to return the site as far as possible to its former state, or rehabilitation measures;

(n) in the case of a new infrastructure proposal, an environmental management plan to be implemented during the construction phase; [Amended 11/2020 (cio 22/4/2021).]

(na) information on eco-friendly practices to promote sustainable development such as waste minimisation, reuse, recycling, composting, energy efficiency, renewable energy supply, green building practices, water conservation and management, rainwater harvesting and recycling of waste water; and [Inserted 11/2020 (cio 22/4/2021).]

(o) such other information as may be necessary for a proper assessment and review of the potential impact of the undertaking on the environment, people and society.

(3) Without prejudice to subsection (2), the proponent **may**, where applicable, be required to include, in the EIA report –

(a) an ecological assessment of the site;

(b) a vulnerability assessment and proposed adaptation measures with respect to climate change;

(c) an estimation of greenhouse gas emission attributed to the undertaking, and associated activities within the physical boundary of the undertaking, over its life cycle.

[Added 11/2020 (cio 22/4/021).] [S. 18 amended by s. 30 of Act 11 of 2020 w.e.f. 22 April 2021.]

Non Technical Summary

With regard to Cumulative Impact, The EIA report states the following:

Cumulative Impact

*“... on the 11th of May 2022 the MOE notified the Promoter that the RNSC had been declared a scheduled undertaking requiring an EIA under section 17 of the EPA- non listed activity due to the sensitivity of the site. **This EIA was therefore drafted to cover the entire RNSC project which overalls provides a cumulative impact assessment.**² This EIA was therefore drafted to cover the entire RNSC project which overalls provides a cumulative impact assessment.”* (page i, para 4).

The EIA Report demonstrates a limited understanding of the meaning of cumulative impacts and hence its resulting assessment cannot be accepted as it fails all tests of scrutiny. The mere statement that the EIA covers the entire project does not automatically mean that it “overall” provides a cumulative impact assessment.

Below are a few definitions highly relevant to Mauritius and the Roches Noires Site:

- *“Cumulative impacts are changes in the environment, resulting from the combined, incremental effects of past, present and future human activities; long-term environmental change processes; and physical events (e.g. extreme weather events and natural disasters).”* (source: Strengthening Environmental Impact Assessment, Guidelines for Pacific Island Countries and Territories, UNEP, 2018.³
- *“The impacts arising from a range of activities throughout an area or region, where each individual effect may not be significant if taken in isolation”.* European Environment Agency (EEA)⁴
- From documentation of the IFC (cited *at lib* in the EIA report as a benchmark for its content):

² Bold and underline for our emphasis

³ <https://wedocs.unep.org/bitstream/handle/20.500.11822/9963/strengthening-env-impact-assessment.pdf?sequence=1&isAllowed=y>

⁴ <https://www.eea.europa.eu/help/glossary/eea-glossary/cumulative-impacts>

- *“What is important is that during the process of identifying environmental and social impacts and risks, developers or project sponsors (a) recognize that their actions, activities, and projects— their developments —may contribute to cumulative impacts on valued environmental and social components (VECs)⁵ on which other existing or future developments may also have detrimental effects, and (b) avoid and/or minimize these impacts to the greatest extent possible. Furthermore, their developments may be at risk because of an increase in cumulative effects over ecosystem services they may depend on. Good practice requires that, at a minimum, project sponsors assess during the ESIA process whether their development may contribute to cumulative impacts on VECs and/or may be at risk from cumulative effects on VECs they depend on.”⁶ IFC’s Good Practice Handbook – Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets, 2013*
- *“Cumulative impacts are those resulting “from the successive, incremental, and/or combined effects of an action, project, or activity when added to other existing, planned, and/or reasonably anticipated future ones” (IFC 2013). Assessing cumulative impacts might require more than just adding up all impacts from individual projects or developments.”*
- *“Cumulative impacts can also be related to passing certain thresholds. For instance, some habitat loss may not have a large impact on wildlife, but when a certain threshold is passed, an entire population can be wiped out because the habitat becomes too fragmented.”⁷*

We notice in the EIA Report that Project Affected Persons feel the cumulated impacts in the form of mistrust in the light of repeatedly broken promises of the development projects in the village and its surroundings as well as successive reduction in access to sites of ecological importance

⁵ In the IFC document, the footnote refers to a detailed description of Valued Environmental and Social Components.

⁶ <https://www.ifc.org/content/dam/ifc/doc/mgrt/ifc-goodpracticehandbook-cumulativeimpactassessment.pdf>

⁷ <https://www.ifc.org/content/dam/ifc/doc/2023-delta/mpj-ifc-lao-cia-report-2021-ch1.pdf>

The statement that the EIA report recognizes the environmental sensitivity of the site

There are several statements made in the EIA report that the EIA report recognizes the environmental sensitivity of the Site, inter alia:

(a) Conclusion

“It is considered that the proposed development recognises the environmental sensitivity of the site, will provide for a significant economic catalysis for the Village of Roches Noir and complies with all relevant environmental legislation and should therefore be recommended for approval of an EIA Licence under the EPA 2002.” (page v)

“It is considered that the proposed development recognises the environmental sensitivity of the site...”

For the reasons provided throughout this document, **we contend that the EIA Report fails to “recognise the environmental sensitivity of the site”**, these include among others:

- Deficiency in data, especially in critical data to assess the sensitivity of the site.
- The EIA report does not discuss the project’s impact regarding the vulnerability of the site owing to the change in land use. Vulnerability being the sensitivity of a development, human community or ecosystem to damage and loss resulting from a hazardous event or disturbance (climate change, erosion, storm surges and sea level rise). Mauritius being a Small Island Developing State (SIDS) and the project being sited on the coast and in a highly ecologically sensitive area, the question of vulnerability should have been a major aspect to be considered so as not to potentially increase the island’s vulnerability to climate change. This is not the case.
- The EIA report only mentions vulnerability to climate change impacts in respect to its own development (siting of buildings) but neither to the human communities in adjoining areas (Roches Noires village and beachfront dwellers) nor to the natural ecosystems.
- Regarding the sensitivity of the soil and underground structures (presence of cavities, high water table, intrusion of sea water) for example, the EIA does not assess the environmental and ecological impacts of the engineering solutions proposed.

- It is appropriate to note here that the Natural Capital Assessment reported in the EIA Report gives an overall negative score to the project of -9 over 30 ecosystem services. Our assessment after analyzing the EIA Report stands at -20. This shows clearly the severity of negative impacts on the natural capital.
- Socio-economic baseline – see our full comments in 15 SIA *“It is considered that the proposed development ... will provide for a significant economic catalysis for the Village of Roches Noir (sic)...”*
 - We contend that **the socio-economic baseline in the EIA report is very deficient**, and that the mere enumeration of potential jobs and statements on potential economic activity that could be generated are not sufficient to allow the Promoter to state that the project *“will provide for a significant economic catalysis for the Village of Roches Noir (sic)...”*
 - There has been no evaluation of any of the smart cities implemented so far as regards generation of employment and economic activity for the community.

Conformance of the Contents of the EIA report with respect to the local existing Legal and Regulatory Frame work and the IFC Standards.

- Statement from the EIA report:
“It is considered that the proposed development ... complies with all relevant environmental legislation ... ”

We contend that the EIA report **does not comply with all relevant environmental legislation** as the EIA Report is severely flawed, is not a true and fair statement, and specifically fails to conform with Section 18(2) (d), (f), (g), (h), (i), (j), (k), (m) of the Environment and Section 18(3) (a), (b) and (c) of the Environment Protection Act (2002) as subsequently amended.

➤ **In the main, the fatal flaws identified in the EIA report include *inter alia*:**

- Deficiencies, including lack of baseline data (including socioeconomic data and data over how people interact with the environment on the Site) that allow genuine qualitative and quantitative assessment of impacts and hence these raise severe doubts on the sufficiency/validity of several of proposed mitigation measures;
- Poor/lack of assessment of impacts;
- Proposed engineering solutions/environmental interactions not demonstrated clearly leading to underestimated/erroneous impact assessment;
- Incoherence and inconsistencies within the EIA Report submitted;
- Discrepancies and omissions.

Strictly on the basis of the contents of an EIA report as per EPA 2008 as subsequently amended, the above flaws are too numerous to comment; we shall provide some of the fatal flaws in this document as highlights only.

Discrepancies

- **Letter of Comfort from the EDB.** We note that the Letter of Comfort from the EDB dated 23 March 2022 specifies that the Letter is issued for “2 hotels (170 and 140 keys)” and that the Promoter is required to provide prior to the submission for the application of the Smart City Certificate “(i) *An EIA License for the components to be developed in Phase I and listed under Part B of the Fifth Schedule of the Environment Protection Act*”.

It is not clear in the EIA Report to which of the two hotels the EIA Report is referring. Furthermore, the letter from the Ministry of Tourism to Mr Christophe Petit, PR Capital (Mauritius) Ltd, dated 19 July 2022, the Ministry specifies “a five-star hotel comprising of 90 villas at Roches Noires.” The EIA report fails to provide clarifications and evidences for this discrepancy between the description of the masterplan components and the description of the masterplan components in the said letter of comfort.

This is not in conformity with the Letter of Comfort issued 23 March 2022, and whose validity, we reiterate, expired on 7 March 2023. This discrepancy has not been clarified in the EIA report.

Omissions

There are several, a few are given here for illustration purposes:

- In the introduction to Chapter 11 Geotechnical Investigation, particularly on the report of Water Research Co Limited dated 30 May 2023 (page 560 of the EIA Report), we note the following:

*"Investigations and assessments related to the hydrogeological conditions on the site are presented on a **parallel Report on the topic to be issued in the next few weeks.**"* It seems that this “parallel report” is not in the EIA Report submitted by PR Capital on 31 August 2023, and this has been confirmed by the MoE in a reply to PML following a request for clarifications. The MoE informed us that it had informed the Consultants about this matter and that the said “parallel report” would be sent to us and made public as soon as it is received from the Consultants. At the time of finalising our comments, this parallel report had not been received.

- The Context Plan provided in Appendix D does not, for example, include information listed in the Technical Guidelines for Residential Morcellement Development, Morcellement Board, Ministry of Housing and Lands January 2013.

Site/layout/context/location Plan

The site/layout/location/context plan must be drawn up in an appropriate scale and be as per Cadastral Survey Act 2011 and certified by a Sworn Land Surveyor.

The location/context plan must show (1 in 1500):

- some known landmarks as reference points such as schools, community centres or police station, etc. ;
- route from land mark to site, distances along route from landmark to site;
- any river, rivulet, feeder, canal or man-made drainage system within 200m of the site and their distance from site boundaries;
- any Environmental Sensitive Areas (ESA's) located within 200m of the site;
- adjacent residential area and their distance from the site; any existing

development on site and in the vicinity; • the location of all service mains, such as water, sewer lines and electricity; • existing or proposed access to the proposed morcellement and dimensions route from RDA classified road to morcellement site; distances along route from RDA classified road to morcellement site; any existing outlets/natural drain to which the surface runoff from the development can be discharged; all lateral/secondary roads and dimensions along route from RDA classified road to morcellement site; • and any bad neighbour development such as stone crushing plant, poultry farm, etc. and the distance from the proposed development. any river, rivulet, feeder, canal or man-made drainage system crossing or adjoining the site indicating the reserve as appropriate as per the Forests and Reserves Act; • any heritage building or monuments.

- It does not show the Northern Airport Safeguarding Area mentioned in 3.2 Site Location.
- The EIA report mentions one hotel in the area when there are two hotels, one in the Azuri Residential Development and one in Poste Lafayette.
- Relevant international conventions (eg. Sendai Framework for Risk Reduction), relevant national strategies (eg. National Biodiversity Strategy and Action Plan 2017-2025, national targets, Protected Area Network Expansion Strategy 2017-2026), national commitments (Nationally Determined Contributions under the Paris Agreement) amongst others.

➤ **For all the reasons given above, which will be developed in the comments on following chapters, Platform Moris Lanvironnman is of the opinion that the application for an EIA License should be rejected as the fatal flaws are too numerous.**

1 Introduction

1.1 Background to the Roches Noires Smart City

We make the following observations on this sub-section:

It mentions the “*lack of success*” of previous project proposals. It has encountered “*mistrust and uncertainty among the community*” about projects on the site. It seems to ascribe this to the fact that they were “*broken promises*” because they did not go ahead. However the mention of “*missed opportunities for economic growth and improved quality of life*” is an assertion of the Report.

Yet, it then does highlight two sets of misgivings and objections regarding environmental degradation and whether it will lead to socio-economic benefits for the local community, when any project does go ahead.

On this basis it states that it is minimising impacts to the environment as well as reinforce socio-economic integration.

In describing the project, it puts forward the central spatial principles underpinning the design of the RNSC, in terms of accessibility, diversity and identity.

We note that its framing of *accessibility* is reduced to physical accessibility alone. *Diversity* is reduced to diversity of uses. As for *identity*, the project area continues to be framed as a destination for newcomers to work, live, play. Settle in. The sense of space will in fact be profoundly modified, through place-making views and vistas and landscaping. It is all about the gaze of the new residents and users.

So for whom is it conferring identity to the place? The newcomers, residents have not been characterised. Further on in the text, it states that the new residency will be demand-driven, but we have a very vague picture of their profile....

More fundamentally, should this place be disposed of purely based on demand and the pace of demand? The Introduction does not specify where the demand is coming from nor does it characterise it.

The EIA Report throughout struggles between being a brochure promoting a private real estate mixed-use urban development on the one hand; and a robust data-driven and evidence-based Social and Environmental Impact Assessment, using UpToDate norms and standards

on the other.

The description fits a standard textbook menu for greening an existing brownfield city site, displaying its improved features. It would be more appropriate if it was an urban or rural-urban regeneration with adjacent “bare” features, as have mentioned some of the local stakeholders. What it describes would then be an improvement.

The features it describes however show that it wants to urbanise a greenfield site [*Refer to its Figure 1: Full RNSC Masterplan as well as its Section 1.3 Key Smart City Components*]:

There is no mention that the boundary adjoins the Bras d’Eau Reserve at this point.

A landscaped environment is no longer “pristine” as claimed! And neither was it before. It will be a profoundly modified area.

“Live work and play” concept is not really intended for the locals adjoining the site.

Is there any added value to “Central tree-lined boulevard” around which to build residences and other buildings, in what is a greenfield site?

For whom are “vistas towards the ocean” protected, if not the High Net Worth (HNW) Residents?

Reduced energy consumption is a false claim from a baseline of no or limited energy consumption on the present site.

The “prodigious” use of landscaping actually encroaches on its actual green baseline conditions, which are poorly scoped and characterised as the following comments of individual chapters will show.

The claims about restoration and preservation of natural features, pockets of endemic vegetation would be better made as a transformative alternative to this project and consistent with and in support of meeting the National Targets of the National Biodiversity Strategy and Action Plan 2017-2025.

Low impact construction claim in the introduction is not supported in the later chapter. And this is against a baseline of no current construction impact!

Place-making features, “high-quality”(?) open spaces, landscaping again would resonate with a brownfield site, compared to existing open spaces.

1.2 Objectives

It states the objectives of the EIA is of assessing impacts of the proposed undertaking. They are

segmented into 1) environmental impacts and 2) social impacts, in the light of which to devise 3) mitigation strategies.

A fourth objective is to provide recommendations to decision-makers, i.e promoters and government agencies whether to approve or reject the projects.

We contend

- that this EIA is flawed and shows deep biases and gaps that are private promoter-driven.
- that government agencies need and do use other frames, norms and standards to assess development, weigh pros and cons, strive to meet targets and overcome critical challenges. The Report fails to mention adequately, let alone seem to be aware of and consider them in this site (refer to comments on Regulatory framework).
- that the central overriding concern needs to be the **sensitivity** of the area. It is why in fact the undertaking has to apply for an EIA License in the first place.

The project does not claim that its overriding objective is to enhance the site given its ecological “sensitivity”. This would clearly position it as an **Other Effective Area for Conservation Management (OECM)**. Its main line of business in Mauritius is to penetrate different market segments of real estate mixed use investment, as highlighted in Sub-Section 1.3 and draw incentives under the Smart City scheme.

We will scrutinise in what follows the Project’s claim that it is socially, economically and ecologically responsible.

We will assess this claim against the general existing policy, legislative and regulatory framework as well as those specific to this undertaking and specific to its location.

We will refer to them while examining different chapters.

In particular,

- 1) the requirements of the Environmental Protection Act regarding Environmental Impact Assessment (EIA).
- 2) the following guidelines(d) and (e) of the Economic Development Board (EDB) regarding smart cities

“(d) the proper management, development and conservation of natural and man-

made resources for the purposes of promoting the social and economic welfare of the community and a better environment and (e) ecologically sustainable development”.

- 3) The Outline planning scheme for the district of Rivière du Rempart, as well as
- 4) The Republic of Mauritius’ international commitments and reporting requirements as delineated in policies, strategies, action plans and related targets

1.4 Project justification and objectives

11

We note that this section is very general about the purpose of Smart Cities (Table 1 in the text but labelled as Figure 2 : Compliance with Smart City Scheme). It just does a quantitative check list of compliance without considering the guidelines (d) and (e) referred to above.

The comments of the following chapters show that it is not really compliant.

There is no mention of the Environmental Protection Act, under which it is required to produce an EIA Report. Nor of the stipulated criteria under which to assess the EIA.

1.4.2 Foreign Residents

This is a cursory, generic section relating to growth in tourist arrivals only. It shows no engagement with the social, economic environmental concerns with tourism and the emerging norms and standards, attitudes towards sustainable tourism. By itself it does not demonstrate justification for this specific project.

1.4.3 Golf Tourism

The same comment applies to a very superficial, perfunctory use of “alignment” to promotion of golf tourism. As with tourism and residency, these are treated as unproblematic and not giving rise to tensions and concerns about sustainability.

It is silent on or has not grasped the fact that the recent golf strategy it claims to align to, has already mainstreamed the biodiversity targets and presumption against development in ecologically sensitive sites. (*as pointed out in the EIA Gap Analysis of the Roches Noires Report*)

1.4.4 Employment Creation Potential

There is a sweeping claim about a range of potential employment creation.

It has no specification of earmarked local employment and how it has arrived at any quota, ratio.

We note that this is only speculative with no clear binding commitments, without penalties for non-compliance down the line to deter making empty promises. There is no data or evidence base provided to support these claims. For those “*broken promises*” upfront, there is a built-in disclaimer: The operation stage which is itself phased over time. And the employment will certainly depend on whatever demand for the features, the market conditions will create. The employment multiplier effect of the phased investment is this even more speculative. There seems to be no risk and sensitivity analysis given such a vague market situation.

1.4.5 The Benefits to Local Communities

These are also broad general unsupported claims. It does mention the “potential to”.

However, there is no mention how it will address the “*mistrust and misgivings*”. It is possible that it considers it has adequately tried to minimise them in its design.

There is no mention at all of **risks, unintended consequences, unanticipated impacts** (We do not see climate change or disaster risk reduction) and who will bear them. How it will address emerging concerns as the real impact *ex post* in the different phases unfold?

It makes no distinction between direct and indirect multiplier effects -- either positive and/or negative. The substantial concerns we have will be addressed in the substantive chapters.

It makes extremely vague statements about generating revenue of more than Rs 41 bn at completion. It looks at foreign currency **inflows only**. These are **gross earnings only, not net earnings**. It does not show outflows through its supply chain at all stages of the project life cycle - design, construction, and phased implementation stages. It does not state what the **completion** point is.

1.6 The Promoter - Due diligence

We note that the promoter describes itself as a specialist, “*in land use planning and real estate development, but it also provides services in the construction trades, investment in hotels and tertiary real estate*”. It does not have any experience in crafting projects with high ecological sensitivity. This shows quite clearly.

We contend that neither PR Capital (Mauritius) Ltd nor the Economic Development Board (EDB) have conducted the level of due diligence that was required for such a project on such a sensitive and vulnerable site with numerous ESAs; the site itself being an ESA (forest) and contains several ecosystems that are ESAs.

Based on the EDB Guidelines for smart cities that state that at Stage 1: Submission of a development proposal, state that the following:

“ The duly completed application form must be submitted with the following mandatory documents:

(...)

d. Document providing the existing land use and constraints (present land use, type of ground cover, vegetation etc.), existing rivers, canals, natural drain and drainage patterns”.

It can be argued that the Promoter did not correctly assess the constraints before submitting his proposal as he has applied to the Receiver Manager under whose administration the site falls for an extension of the deadlines for the submission of required administrative licenses and permits. The request for an extension of deadlines was supported by a report by the Project Manager Keystone Ltd submitted to the Receiver Manager and included in the Title Deed (Appendix A) as an appendix but is not included in Appendix A of the EIA Report. One gathers from the amended Title Deed (pages 19 and 20) that the “***complexité de la situation du terrain***” was invoked to justify the delay in obtaining an EIA License by the date stipulated in the original Compromis de Vente between the owners of the site and the Promoters.

Scheme » auprès de l'Economic Development Board et le dépôt par l'ACQUEREUR de son rapport environnemental dit « Environment Impact Assessment Report » auprès de l'autorité compétente ; étant toutefois précisé que la remise de ladite somme à l'ACQUEREUR est subordonnée au retranchement des coûts suivants : (a) les coûts

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marginaux supportés en raison des retards encourus sur chaque composante du projet en raison de la complexité de la situation du terrain, (b) les coûts figurant au budget jusqu'à l'obtention du permis « EIA Licence » ainsi que l'agrément « Smart City Certificate », et (c) les factures relatives aux coûts de gestion de projet réglées jusqu'à la date des présentes;

Part of pages 16 and 20 of Title Deed

2 Regulatory Framework

We make the following observations on this chapter.

The title is a misnomer.

- It contains a mixed bag, an assorted list of international law, instruments, conventions, national legislations, regulations, policy guidance, technical reports. They are presented in a jumble, not in any coherent order or hierarchy. There is no discussion or analysis of the “*associated policies*” of the list of laws and regulations presented.
- One does not get a cogent and relevant picture of the overarching normative, governance, policy, legal and institutional frameworks, processes and instruments underpinning, guiding, supporting, limiting, justifying the proposed undertaking. And which moves from the intergovernmental agreements to the national and sub-national levels to zoom into specific sites and locations.
- There is no explicit acknowledgment that this mapping is a helpful frame to generate a map of stakeholders at different levels.
- The link between the *National Development Strategy 2003 and Outline Planning Schemes* at sub-national district levels, contextualised by district/s, is not made. There is no mention that the NDS is out of date and that there is no time bound successor as yet.
- There are **superficial, general descriptions of some selected items** on the lists enumerated or with no rationale or criteria over how these have been chosen for highlighting and/or the level of relevant detail needed for an assessment.
- In addition, there is selective bias in what is described extensively and not described, in ways that misrepresent and oriented to justify the project, namely about golf courses (see below comments and comments on Project description). **It is clear that what is highlighted and framed is what enables, facilitates its Smart City features.**
- It is quite revealing how greater attention to tourism zones and golf courses contrasts with its cursory, as well as selective treatment of the international

conventions, their targets and indicators, the related body of knowledge which are critical for appraising the sensitivity of the site on which this project proposes to locate.

- In our view, these omissions speak volumes about the (lack of) seriousness of the claims made about ecological and social, economic and cultural impacts.

It must be underscored that the Republic of Mauritius is actually engaged in intergovernmental efforts to build synergies and convergence among SDGs, the different Rio Conventions on climate change, pollution, biodiversity and desertification. It is also active at regional level over Agenda 2063. It involves ensuring that public and/or private projects at sub national levels in specific localities count in meeting standards and targets.

- These frameworks against which to appraise this project are simply not even mentioned, except for an empty listing and an empty, unsupported claim of the potential of the project to meet all the SDGs, except we deduce from the enumeration, SDGs 1,2,7!
- The **Mauritius Biodiversity Strategy and Action (NBSAP) 2017-2025 and the nationally derived Aichi Targets or the Samoa Pathways for Small Island Development States (SIDS)** - again hardly touched on - for instance are missing.
- We will refer to them in our comments to subsequent chapters to frame our objections to this undertaking
- Of all the norms and standards that private business and international finance institutions have developed to translate these agreements into their principles, and operations, the only one mentioned is the International Finance Corporation Safeguards. But there are others in the same vein, from other finance institutions – such as the European Investment Bank, the African Development Bank⁸, as well as the United Nations Guiding Principles on Business and Human Rights, which escape the attention of the Consultants.

⁸ Mauritian scientists and public officials participate in Conference of parties to the CBD supported by the AfDB. See Technical Review Brief: A Review of the First Order Draft of the Post 2020 Global Biodiversity Framework and Africa's Biodiversity Priorities

- We would certainly have referred to them and assessed the Project features against them, if there had been sufficient time allocated for a thorough review and comments process.

The section 2.22 on policy consideration is yet another weak, vague unsubstantiated affirmation,

- It does not spell out all the relevant policies and how connected to laws and regulations.
- For this and other chapters, they may be well advised to learn from the Bras d'Eau Management Plan, a protected area, which adjoins their southern boundary⁹.

Cutting through the shallow listing and empty rhetoric is tedious and does little to enhance the credibility and quality of this Report.

2.3 Golf Development Strategy for Mauritius 2002

Once more, the EIA Report has been highly selective, cherry picking only what suits the business objective of the Promoters, as PML demonstrates below:

Golf courses should not even have been considered in the RNSC. Indeed, the Golf Development Strategy for Mauritius (2002) mentioned in the Chapter 2 Regulatory Framework is very clear:

Executive summary:

*“Priority should, be given to sites offering the greatest potential for creating outstanding, ‘Sustainable Golf Courses’ – based on location, topography, site area, internal and external landscape quality, golf course ecology, **water availability and social compatibility**.*

*In applying these criteria, it is likely that appropriate golf development sites could well be found in **inland locations**. This should be encouraged, in line with government policy to **take development pressure off the coastal zone**.”*

⁹ https://chm.cbd.int/api/v2013/documents/CB727197-27E4-44E1-8013-3C475A0BC4E2/attachments/213788/Bras%20D'eau%20Management%20Plan%20Final%20draft%20%20July%202018_Full2.pdf

3.4 Inland Sites: *“There are major inland golf potentials such as the upper Plaines Wilhems, Nicoliere, Valetta, Highlands, Bois Chéri and other **suitable sites with high rainfall**, wide areas not encroaching on the public beaches and State Lands, **a deeper water table instead of near the surface for coastal areas, remoteness from the sensitive lagoon environment,...**”*

“3.5 Sites That Should Not be Developed

Some sites are inappropriate for golf course development and should preferably be left totally undisturbed. These may include:

- *Environmentally sensitive wetlands - mangroves and lagoon*
- *Sites with insufficient land area or inappropriate topography*
- *Sites with coastal access issues*
- *Prime sugar producing land*
- *Sites where water resources are insufficient*
- *Unspoilt scenic landscape areas*
- *Sites which are of socio-economic importance for the public.”*

*“3.6 The main limiting factor must be the land use planning considerations, **to ensure that the coastline and other high value natural and landscape areas are adequately conserved.**”*

“4.6 Impact of alteration of land use in respect to changes in habitats, plant diversity and flora and fauna

*Where courses are proposed for reconverted sugar land ecological impact will be low to non significant. More attention should be given to coastal scrub forests and wetlands as they do support a range of flora and fauna, even if the majority are non-native to the island. At the very least these areas have landscape value and the wetlands fulfil important hydrological functions. **The Republic of Mauritius is a signatory of the Ramsar Convention on Wetlands. In this context, development on or around wetlands should not in principle be permitted – that includes all types of development, golf course, hotel or other.**”*

As is demonstrated in our comments in various sections of our comments, the irreversible ecological, environmental and social (potable water issues) impacts RNSC proposal go against all the principles contained in the Golf Development Strategy.

2.6 Outline Planning Scheme for Pamplemousses Riviere du Rampart District Council Area and Moka-Flacq District Council Area 2006

“EP 4

Marine Protected Areas

(...)

In addition to the requirements under the Environment Protection Act 2002 and the Fisheries and Marine Resources Act 1998, the aims and objectives of Marine Parks-at Balaclava and Fishing Reserves-at Rivière du Rempart-Poudre D’Or shown on the Development Management Maps should be acknowledged in the assessment of any development which may affect the operations and environmental functions of such Marine Parks and Fishing Reserves.”

The justification given is the following:

“To ensure land and water-based development does not adversely affect nationally-protected sensitive marine environments. The Marine Parks and Fishing Reserves not only help protect the livelihood of local fishermen but assist in replenishing fish stocks within the marine ecosystem. The intent of Policy EP 3 is to address the issue of development proposals adjoining or within the Marine Protected Areas and to assist in the on-going protection of the Fishing Reserves.”

- The EIA report fails to acknowledge the existence of the Poudre d’Or Fishing Reserve which it states as lying to the north of the site when it is opposite the site, and does not include it in the study area of the Marine Biodata Survey.

“Environmental Conservation EC 1

Conservation of Environmentally Sensitive Areas (ESAs)

(...)

Where the ESAs are indicated on the Development Management Maps there should be a general presumption against development other than for educational or environmental management purposes or in order to sustain local economies or where development is deemed to be in the national interest and is acceptable on planning and environmental grounds.”

- The RNSC has not demonstrated that it will sustain local economies nor is in the national interest, and it is not acceptable on planning and environmental grounds.

*“Opportunities for the sustained management of ESAs, which may form part of developments, should be pursued through planning agreement/obligation mechanisms. In all such cases, **proposals for development within or adjoining Environmentally Sensitive Areas will need to demonstrate how they contribute to maintaining and enhancing the environmental character of the area and that they comply with relevant criteria in the Design Guidance outlined in SD5.**”*

- The RNSC has demonstrated that it **will not** contribute to maintaining and enhancing the environmental character of the area **but will rather irreversibly negatively impact the environmental character of the site.**

“For the purposes of this Policy, ESAs are defined as follows:

- *State Lands including State Forest Lands and privately-owned Mountain Reserves;*
- ***Habitat for Endemic Flora and Fauna - which have strong links to the Reserves identified in Policy EP 1;***
- *Mountain Slopes and Range Peaks – for moderately steep to steep/ very steep hillsides and mountain slopes and ridgelines;*
- ***Coastal Features - including parts of the coastline, sand beaches and dunes, mudflats, offshore islets and coastal wetlands and mangroves;***
- *Water Resources - major aquifers, surface water catchment areas*
- *and identified reservoirs/dams, lakes, upland marsh and boreholes and existing*

weirs; and

- ***Geological Features - the location of lava tubes and pits and caves which are associated with cave networks and groundwater supplies.***

Justification: ESAs represent national environmental assets and their on-going management, protection and enhancement is vital if sustainable development goals are to be achieved. The intent of policy EC 1 is to reinforce a general presumption against major development in or adjacent to identified ESAs.

The adoption of a precautionary approach to development is considered appropriate; the policy also incorporates the principles of Policies SD 2, SD 3 and SD 4 requiring additional environmental information for developments when considered necessary to inform the decision-making process.”

- The RNSC contains three out of the seven types of ESAs described above, namely:
 - *Coastal Features - including parts of the coastline, sand beaches and dunes, mudflats, offshore islets and coastal wetlands and mangroves;*
 - *Geological Features - the location of lava tubes and pits and caves which are associated with cave networks and groundwater supplies.*
 - It can be argued that it satisfies criteria “Habitat for Endemic Flora and Fauna - which have strong links to the Reserves identified in Policy EP 1” as it has strong links with Bras d’Eau National Park.
- **We contend therefore that a precautionary approach to development on the RNSC site should be adopted.**

2.20 International Finance Corporation Safeguards

The EIA Report fails with regards to IFC Safeguards as it does not comply with the Performance Standards on Environmental and Social Sustainability, specifically regarding

- PS 1: Assessment and Management of Environmental and Social Risks and Impacts;
- PS 3: Resource Efficiency and Pollution Prevention;

- PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- PS 8: Cultural Heritage

“Sustainable projects should incorporate environmental and social factors as per IFC recommendations. This EIA has therefore been designed to answer the numerous concerns of stakeholders identified for the project. Due to the detected foreseen impacts and in accordance with the specifications of an integrated Environmental and Social Impact Assessment, the Smart City project has been designed in a way (sic) that will avoid, minimise or offset adverse social and environmental impacts as far as possible.”

As submitted in the comments on the NTS and following chapters, the EIA fails to identify major environmental and ecological impacts and there is no mention of risk identification, including disaster risk.

Regarding PS 6, the overall score for Natural Capital Assessment is negative (-9 and -20 according to our assessment, see comments on 8.4 Natural Capital Assessment).

*“Performance Standard 6 places considerable **emphasis on the avoidance of impacts on biodiversity and ecosystem services**. This is reflected in the first sentence of paragraph 7 of Performance Standard 6. Avoidance of impacts is sometimes the only means to prevent irreplaceable loss of biodiversity or associated ecosystem services; the emphasis on avoidance in the mitigation hierarchy should thus be proportional to the irreplaceability and vulnerability of the affected biodiversity and/or ecosystem service as described in paragraph GN13 of this note.”*

“GN36. Clients should endeavor to site the project in modified habitat rather than on natural or critical habitat and demonstrate this effort through a project alternatives analysis conducted during the risks and impacts identification process.”

- **There has been no project alternatives analysis, and it can be argued that the site is critical habitat.**

“GN28. Both natural and modified habitats may contain high biodiversity values, thereby qualifying as critical habitat. Performance Standard 6 does not limit its definition of critical habitat to critical natural habitat. An area may just as well be critical modified habitat. The extent of human-induced modification of the habitat is therefore not necessarily an indicator of its biodiversity value or the presence of critical habitat.”

*“GN30. A biodiversity offset serves as a risk management tool for developers whose projects will have an impact on biodiversity. It involves an agreed set of conservation actions or **“measurable conservation outcomes,”** which could demonstrate how biodiversity losses caused by the development project will be balanced by equivalent biodiversity gains.”*

- The EIA report **does not contain any measurable conservation outcome.**

All these will be discussed further in relevant chapters.

3 Site Description and Surrounding Environment

Description: A uniqueness that will be destroyed

“The RNSC will be set around the existing Barachois and wetlands on a currently undeveloped land and respecting a 30 m buffer zone from the mangrove vegetation and ESA’s. The Barachois is one of the most unique features of the RNSC site and therefore offers exceptional scenery for the development.”

The Site is a highly productive area on account of the economic and ecosystemic services it provides freely. The EIA Report itself demonstrate the high level of financial investment required to try to lamely replace a few of the ecosystem services the RNSC will irreversibly destroy.

The scenery offered by the Barachois as illustrated by the photograph accompanying this section of EIA Report is an insult to villagers of Roches Noires who up to now have free access to the Barachois and fishers who moor their livelihood tool in the Barachois. Because once the Site is fenced off for construction and operation, they will no longer have access to the Barachois, which will be to the sole benefit of RNSC Hotel customers. Moreover, no less than three point source discharges of storm water highly likely to be laden with pollutants will reach the Barachois post-development.

Throughout the EIA Report, the Promoters and their Consultants describe the Site as being useless as it is (“dormant scenery” for example) whereas it is critical habitat for biodiversity and a unique site in the whole of Mauritius island, a uniqueness that will be destroyed by the urbanisation that the RNSC represents.

Location with respect to the site earmarked for the Northern Airport

“To the southwest – The proposed Airport Safeguarding Area (Airport Operational Zone) is slightly encroaching to the western site boundary, however only roads and infrastructures will be located in this area, with anticipated construction works (kindly refer to the Drawings in Appendix G) whilst the proposed East Coast Trunk Road is located approximately 3.5 km southwest of the site.”

There is no mention in the EIA report that the views of the Department of Civil Aviation have been sought prior to the design of the master plan. It is not clear in the master plan that only roads and infrastructure will be located in the proposed Airport Safeguarding Area. Furthermore, the Outline Planning Scheme (OPS) for Pamplemousses/Rivière du Rempart explicitly mentions constraints with respect to future developments in the Safeguarding Area.

3.3 Site ownership

Once again, PR Capital is very selective and in doing so does not conform to Section 18(2) EPA which states that “*The EIA report shall contain a true and fair statement and description of the undertaking as proposed to be carried out by the proponent, and shall include – (a) the name and address of the proponent; (b) the ownership of the undertaking and of the land on which it is being conducted;*”

It omits to state that several conditions are attached to the ‘compromis de vente’ between the current owners and the company. The most important ones being deadlines for submitting necessary documents; for example, proof of submission of an EIA Report by 31 August 2023 and grant of an EIA License at latest in May 2024.

The rest of this chapter is another example of deficient data, however, we make the following observations:

Our observations are as follows.

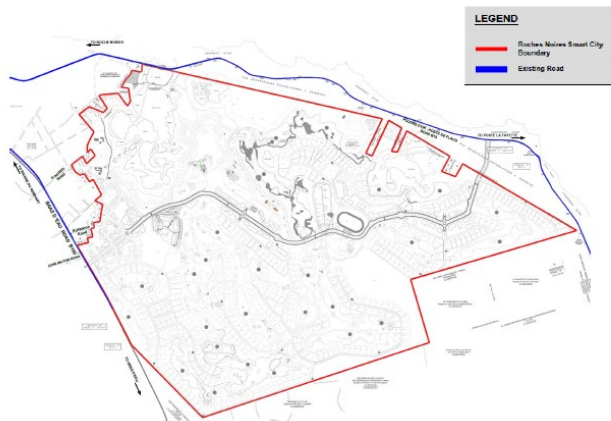
In describing the site, it chooses to highlight that it is in an area earmarked to promote tourism. We do not see that this part of the zones of the National Development Strategy of 2003-2020 (NDS). Nor can we see a Rivière du Rempart and Flacq Development Management Map. To our knowledge this tourist zone refers to the coastal strip only.

It does not mention that the Roches Noires- Plaine des Roches- Bras d’Eau Area (MU 14) is considered as Key Biodiversity Area, nationally identified as of Global Significance by the Critical Ecosystem Partnership Fund.

Nor that it is also located within the **Goodlands, Roches Noire, Bras d’Eau ridge to reef**

potential Land Degradation Hotspot Area.¹⁰ In which achieving Land Degradation Neutrality is an overall key goal.

Figure 16: Existing Access Roads



An assessment of the site by Pierre Baissac (see Annex 5) observes that it “*must now be considered as the last remaining and best relic coastal forest of Mauritius, and indeed of the Mascarenes, as the island of Rodrigues has lost virtually all its natural forest cover, and Reunion having lost all of its dry coastal forests.*”

Our comments are as follows:

The Proponents and Consultants treat the site as “undeveloped land”

Section 3.2 on site location considers the area surrounding “the existing Barachois and wetlands as **undeveloped** land”. (Our emphasis).

This **defies belief** as it seems to ignore critical ecosystem functions and services which makes this area sensitive in the first place. The Barachois is reduced to its real estate feature of offering “*exceptional scenery for the development*”. It carries on in the same vein, “*to the east and south-undeveloped land proposed to be developed as part of the RNSC followed by Bras d’Eau National Park*” (BENP). We are hitting against a key human driver of degradation, increasing risks. It visualises the site as “*undeveloped land densely covered with vegetation*”, much of which it intends to strip...

There is no inkling of the policy measures to reduce fragmentation and bring some connectivity, expand the patches of protected areas, such as part of overall ecosystem restoration.

¹⁰ Final Country Report of the LDN Target Setting Programme- Republic of Mauritius

Section 5 on surrounding environment and on population and settlements.

The narrative and data cover the administrative boundaries at district level only and just indicates the estimated population at village level, from the Digest of Demographic Statistics.

This is worse than superficial.

4 Existing Baseline Conditions

We make the following observations

The sections on climatic conditions, wind, cyclonic conditions are relatively quite detailed with tables. But with no particular relevance to the Project.

The section entitled “Ecology” refers to the Ecological investigation and just lists what are ESAs. It just describes three types of ESAs. There is no consideration of how this site fits within the NBSAP.

We think that Target 11 frames how we assess the Project. We are facing competing or colliding paradigms of the same site.

Box A Extract of The Mauritius National Biodiversity Strategy and Action Plan 2017-2025

Strategic Goal C “to improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity” shall be achieved through the following national targets:



National Target 11: By 2025, at least 16 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes (contribution to Aichi Target 11);

(Note: this includes Other Effective Area-Based Conservation Measures OECMs) which for us describes what this site is and should be treated as), especially in view of Pierre Baissac’s assessment (see in Appendices).

The baseline does not include human-nature interactions, existing patterns of customary uses and values. How the site is viewed and used by people. It reduces the cultural and spiritual values of the site to built- tangible heritage only. What are the particular places that have meaning for people? We will expand further on this glaring omission in the section on Social Impact Assessment.

4.9 Heritage

In 2.20, the Promoter states that “*The specific IFC Performance Standards applicable to the EIA are PS 1, PS 2, PS 3, PS 4, PS5, PS 6 and PS 8.*”

However, an analysis of the described baseline conditions regarding heritage reveals that it is deficient and is not in conformity with IFC Performance Standard 8 Cultural Heritage and Guidance Note 8 Cultural Heritage.

Performance Standard 8 Cultural Heritage states that:

“Cultural heritage encompasses properties and sites of archaeological, historical, cultural, artistic, and religious significance. It also refers to unique environmental features.”

Guidance Note 8 Cultural Heritage states that:

*“**Introduction:** Performance Standard 8 recognizes the importance of cultural heritage for current and future generations. Consistent with the Convention Concerning the Protection of the World Cultural and Natural Heritage, this Performance Standard aims to ensure that clients protect cultural heritage in the course of their project activities. In addition, the requirements of this Performance Standard on a project’s use of cultural heritage are based in part on standards set by the Convention on Biological Diversity.*

Objective:

To protect cultural heritage from the adverse impacts of project activities and support its preservation.

To promote the equitable sharing of benefits from the use of cultural heritage.

Scope of Application:

*“3. For the purposes of this Performance Standard, cultural heritage refers to (i) tangible forms of cultural heritage, such as tangible moveable or immovable objects, property, **sites, structures, or groups of structures, having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values;** (ii) unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes, and waterfalls; and (iii) **certain instances of intangible forms of culture that are proposed to be used for commercial purposes, such as cultural knowledge, innovations, and practices of communities embodying traditional lifestyles.***

*5. The requirements of this Performance Standard apply to cultural heritage **regardless of whether or not it has been legally protected or previously disturbed.** The requirements of this Performance Standard do not apply to cultural heritage of Indigenous Peoples; Performance Standard 7 describes those requirements.”*

Yet, the Promoter has not considered any of the forms of cultural heritage in PS8 and

Guidance Note 8 except for statements of general observation on the ruins of buildings and ecological and landscape features (which are flawed – see later). This despite the site having been described in literature and the local press by experts as having paleontological value. (see Gregory Middleton and Julian Pender Hume)¹¹.

We contend that instead of upholding the practices of communities embodying traditional lifestyles, the RNSC will destroy these practices through the loss of free access to the site for fruit picking, picnicking by the Barachois, collecting bait for fishing, wild honey collection, bathing in ponds for pleasure and cleansing rituals for those who believe that the ponds hold spiritual and purifying properties. Above this, the RNSC will, upon its own admission (see the SIA), impose on the communities a lifestyle that it deems to be “modern” compared to their current lifestyle.

It is worth noting here that the SIA of the first EIA Report reported the fears and concerns of inhabitants that their traditional lifestyles would be lost if the project went ahead. This has been reiterated in the present SIA.

¹¹ https://www.lemauricien.com/actualites/societe/prem-saddul-geomorphologue-roches-noires-est-un-patrimoine-geologique-a-proteger-a-tout-prix/486859/?fbclid=IwAR0RXyFcfqC0Lsqz113G1UbM820Afm_dBMmMQkrmNqs4yqhEbw_oPwexZ5s

5 Project Description

The Project description reveals a major, high density real estate development that will destroy a **unique site**. The EIA report failed to examine the uniqueness of the Site on account of it being a coastal forest land¹² and additionally is recognized to be the last remaining and best relic coastal forest of Mauritius. This is indeed highlighted in the statement made by a Consultant Ecologist as follows.

*“(...) Roches Noires, on the other hand and in the light of present knowledge, ad because of its typical mainland basaltic terrain, must now be considered as **the last remaining and best relic coastal forest of Mauritius, and indeed of the Mascarenes**, as the island of Rodrigues has lost virtually all its natural forest cover, and Reunion having lost all of its dry coastal forests.”*

(source: Pierre de Boucherville Baissac, Consultant Ecologist, in Preliminary comments on the proposed development masterplan Roches Noires project, 8 November 2023. See the full document in Appendix 7).

The project will also destroy a well-functioning, auto-regulating natural ecosystems by man-made systems that can **never** match naturals ones however well they may be designed, which is very far from being the case for RNSC. We contend that these natural ecosystems will be irreversibly destroyed if the RNSC Project is implemented as described in this report.

Overall built-load

The overall density of the RNSC is very high¹³ and it is beyond understanding that the EIA report dare to argue that such a density is in line with sustainability, sustainable development and climate change adaptation given that the Project will destroy irreversibly the last remaining and relic of a coastal forest and its existing ecosystems...

As per 5.1.1, it is understood that the RNSC will comprise of

¹² See comment section on Climate Change Assessment for a definition of forest land

¹³ By way of comparison, Tamarina IRS has 219 villas over 280 hectares.

- Low density 395 villas (365 Golf Villas 30 Standard Villas)
- 140 branded apartments
- 180 standard apartments
- 752 apartments within mixed use area
- 104 duplexes/townhouses
- 150 senior residence apartments
- 180 Integrated Apartments over two plots (65m2 approx each)

5.5 Resort Hotel and SPA

“The hotel and SPA will form part of Phase 1 of the Smart City and will be fundamental to the successful roll-out of the development.”

Figure 22 Land Utilisation indicate that 84.4%¹⁴ of the site will be occupied by man-made structures, thereby completely altering the natural ecosystems and habitat.

First of all we reiterate that the destruction of a coastal forest is by itself a no-go for the RNSC Project. Furthermore, in other development circumstances, lumping together Golf Course with areas of wetland conservation & endemic vegetation is misleading from an environmental and ecological perspective as golf courses are not natural milieu.

Open space and golf course (excluding Barachois and Golf Course) will occupy 12.1% and Hotel Building, BOH and Hotel Villas & Barachois 12.2%.

The EIA Report does not clearly indicate what exactly is meant by “natural water courses” and these natural water courses will be conserved and preserved and how the existing natural drainage routes and seeps will be preserved “*as far as possible*” (5.1.4.1) despite the extensive earthworks required to create all the components of the RNSC. Nowhere in the EIA report, and certainly not in the baseline description of the Site, have water courses, natural drainage routes, natural drains etc. been identified, presence or absence confirmed through existing data, surveys and ground truthing exercise. This is by itself another

¹⁴ Fig. 22 having lumped together Golf Course with areas of wetland conservation & endemic vegetation (35.8%) we are not able to have the exact percentage of land utilization for Golf course only.

admission by the EIA report that it is another serious flaw as per EPA 2008 as subsequently amended.

“Affordable Housing”

5.6 Residential Area

The EIA Report and Social Impact Assessment do not disclose what the price range for “affordable housing” will be nor whether there has been a survey among residents of Roches Noires village to assess their purchasing power with regards to housing. Additionally, although “squatters” are present in the village perimeter as revealed in the Social Impact Assessment (SIA) for the 2022 EIA Report and alluded to in the 2023 SIA, there is no recommendation regarding rehousing those PAP.

Further discussion on “social equity and inclusivity” are provided elsewhere in our comments on the SIA (see later).

However, we will note here that the reason given for the affordable housing to be located next to the village (“*seamless integration*” by using the “*existing roads servicing the existing village along this edge of the site*” to access the apartment blocks) and not in the heart of the RNSC is in contradiction with all the rhetoric about “*This inclusivity fosters social cohesion, as people from different socioeconomic backgrounds live, work, and interact in the same community.*” And the public spaces at the heart of the RNSC being a lieu of social mixing for “social cohesion”. The separate entrance is rather the RNSC version of the contemporary “poor doors” where upmarket housing developments in London and New York City segregate less well-off tenants from wealthy homebuyers by forcing them to use separate entrances. As with those housing developments which are required to include affordable homes in order to win planning permission, it would appear that the RNSC Project is using such strategy so as to comply with the Smart City Scheme requirement for “affordable” housing in smart cities.

We also note that each of the 180 “Integrated Apartments” on two plots of 34,973 m² in total will be approx. 65m² while the 365 Golf villas will be 350 m² to 441 m² over 641,777 m².

Golf course (5.7)

Over and above what we have stated in previous sections, Golf courses should not even have been considered in the RNSC. Indeed, the Golf Development Strategy for Mauritius (2002) mentioned in the Chapter 2 Regulatory Framework is very clear:

Executive summary:

*“Priority should, be given to sites offering the greatest potential for creating outstanding, ‘Sustainable Golf Courses’ – based on location, topography, site area, internal and external landscape quality, golf course ecology, **water availability and social compatibility**.*

*In applying these criteria, it is likely that appropriate golf development sites could well be found in **inland locations**. **This should be encouraged, in line with government policy to take development pressure off the coastal zone.**”*

3.4 Inland Sites: *“There are major inland golf potentials such as the upper Plaines Wilhems, Nicoliere, Valetta, Highlands, Bois Chéri and other **suitable sites with high rainfall**, wide areas not encroaching on the public beaches and State Lands, **a deeper water table instead of near the surface for coastal areas, remoteness from the sensitive lagoon environment,...**”*

[NB bold is not in the original text but is used for emphasis in this document]

“3.5 Sites That Should Not be Developed

Some sites are inappropriate for golf course development and should preferably be left totally undisturbed. These may include:

- ***Environmentally sensitive wetlands - mangroves and lagoon***
- *Sites with insufficient land area or inappropriate topography*
- *Sites with coastal access issues*
- *Prime sugar producing land*
- ***Sites where water resources are insufficient***
- ***Unspoilt scenic landscape areas***
- *Sites which are of socio-economic importance for the public.”*

*“3.6 The main limiting factor must be the land use planning considerations, **to ensure that the coastline and other high value natural and landscape areas are adequately conserved.**”*

“4.6 Impact of alteration of land use in respect to changes in habitats, plant diversity and flora and fauna

*Where courses are proposed for reconverted sugar land ecological impact will be low to non significant. More attention should be given to coastal scrub forests and wetlands as they do support a range of flora and fauna, even if the majority are non-native to the island. At the very least these areas have landscape value and the wetlands fulfil important hydrological functions. **The Republic of Mauritius is a signatory of the Ramsar Convention on Wetlands. In this context, development on or around wetlands should not in principle be permitted – that includes all types of development, golf course, hotel or other.**”*

As is demonstrated in our comments, the irreversible ecological, environmental and social (potable water issues) impacts RNSC proposal go against all the principles contained in the Golf Development Strategy.

“The Golf course proposed as part of the RNSC has been designed with the core principle of respecting the land and what it has to offer, ...”

As is demonstrated in our comments, none of the components of the RNSC respect the land. Golf courses are artificial milieu that require massive earthworks (cut and fill for example, as stated in 6.1.4.1 of the EIA report) and in so doing alter the permeability of the soil and destroy the existing vegetative cover and natural habitats. They also need a considerable amount of water for irrigation (partly - amount not disclosed - from a borehole assigned to domestic use some km away as stated in the EIA report) whilst the areas over which they will be built require no watering.

Figure 69: Golf sustainable design and management principles

NATURE		
Sustainability Objective	Performance Requirements	Deliverable
Develop clear understanding of species, habitats, hydrology and geomorphology	Study in detail ecology, hydrology, designations, soils, geology and geomorphology of the site. Any invasive species to be identified and managed appropriately.	Ecological/botanical, hydrogeological and geotechnical studies undertaken at the site. All invasive species will be managed/removed appropriately
Ensure golf course and landscape design typology is clearly compatible with site and surroundings	Avoid predetermined artificial or enforced design styles.	The golf course style is derived from the site conditions and vegetation.
Protect the most valuable landscape, cultural and ecological features	Avoid ecological hot spots and sensitive landscape zones.	Retain existing valuable and/or protected trees, habitats and cultural sites.

From Figure 69:

Golf sustainable design and management principles

- Based on the above Table, and the deficiencies noted in the EIA report, it appears that the RNSC golf courses will not meet the first Performance Requirement “Study **in detail**¹⁵ ecology, hydrology, designations, soils, geology and geomorphology of the site” as the grid of the geotechnical investigations carried out has a very loose spacing and the results from the coreholes and trial pits reveal wide disparities in soil and subsoil composition between coreholes.

Protect the most valuable landscape, cultural and ecological features

- The whole site is a valuable landscape, cultural and ecological features. Its integrity should be preserved.

¹⁵ Bold is ours

Avoid ecological hotspots and sensitive landscape zones

- The whole site is an ecological hotspot and sensitive landscape. It is part of the **Roches Noires- Plaine des Roches- Bras d'Eau Area (MU 14) which is considered as Key Biodiversity Area**, nationally identified as of Global Significance by the Critical Ecosystem Partnership Fund.

The site is part of the area earmarked for expansion in Protected Area Network Extension Strategy of the Government of Mauritius.

See the CBD's country profile for Mauritius¹⁶

"However, this unique biodiversity is at risk. At present, only 2% of the island is under native forest (which is classified as having more than 50% of native plant coverage), with remaining native vegetation confined to marginal lands without agriculture."

- and the country's national targets¹⁷

*"Nevertheless with just 5% of native forest left (MAB dossier), in water bodies areas (wetlands)- ESA report, decrease/loss of terrestrial and marine species , **there is a need to protect and conserve the remaining remnants habitats areas as well as ensuring their connectivity.**"*

Based on the above indicators as well as comments provided in the previous sections, it is evident that the golf course of the RNSC Project fails the test of scrutiny.

We also make the following observations and comments:

We make the following comments:

Again, we assess this section in terms of what it entails in terms of social ecology, of interrelated social, cultural and environmental impacts and which are treated further in subsequent sections.

The project description tries to sell itself mindful of people's valuation of nature. But in differentiated ways as casual visitors, locals or residents, hotel guests in the hospitality and real estate sector. The latter is the project's the core business.

¹⁶ <https://www.cbd.int/countries/profile/?country=mu>

¹⁷ <https://chm.cbd.int/database/record?documentID=256154>

The view of landscape is mainly for the new residents and hotel clients of the new Smart City, focused on residential plots *in situ* encroaching on an OECM. It will be landscaped as an urban area with leisure amenities as organising spatial principle.

The land use allocation of the entire space in Figure 22 is very revealing. See Table 1 below.

There is a **scenery grab** of the desired “*location, location, location*” dictum of real estate promoters as to what sells. **To the point of destroying the location.** While using nature’s contributions to people to the point of generating negative, unsustainable impacts, destroying environmental values.

The choice ESAs are clustered and subsumed under sellable golf destination features.

Table 1. The land Use of gentrified land and seascape in a Key Biodiversity area fragmented into 469 plots (from Figure 22 EIA Report)

Components	Share of total surface area	
Golf Course (<i>including areas of wetland conservation and endemic vegetation</i>)	35.8%	Areas of ecological importance “place-making” features of golf resort hotel
Golf Villas	17.6%	HNW Residents
Hotel building, BOH, Hotel villas & barachois)	12.2%	Part of “place-making” for HNW
<u>Sub total</u>	<u>65.6%</u>	<u>Appropriated for HNW new settler/residents</u>
Roads	8%	
Open space and conservation (excluding barachois and golf course)	12.1%	

- Note that the golf villas of this inclusive work, live and play site has 732 parking spaces (2 per plot), and requiring roads, which take up 8% of the space overall in this built environment. In a currently unmotorised and unbuilt area.

Greenwashing overlaying gentrification

In this profoundly modified green landscape, as part of “*ecotourism*”, an environmental trail is proposed which according to the promoters “*fosters a deeper understanding and appreciation for the ecological value of the areas rich biodiversity*”. These labels “*ecotourism*”, “*nature-based*

activities” are clear markers of **perverse incentives to sell ecotourism**, while actively eroding, undermining the potential for ecological restoration. Such **greenwashing** will no longer qualify the site for the status of Other Effective area-managed Conservation Measures (OECM).

- As environmental stewards, we have a duty to denounce this. To call it out. We feel **profoundly aggrieved** by these potential losses and spoliation, the **intensifying socio-spatial inequalities on our island**, masquerading as inclusive ecotourism.

The urban social engineering of increased spatial and wealth inequalities
This is a blended mixed use resort facility. It is calling itself a Smart City to qualify under the fiscal subsidies and private wealth tax-planning incentives as a Smart City Scheme, really destined to HNW segments.

The label “*affordable*” is relative. One can try and compare the entire annual budget of the Roches Noires Village Council against the purchase of just one of these villas. Or of the highest income percentile of the forthcoming Household Budget Survey based on the Housing and Population Census 2022 data, which is not even mentioned throughout the document.

In fact, the mixed housing has housing type-specific associated entitlements to use space dedicated exclusively to certain features. It is an exercise of **stratification and hierarchies among the new settlers. The rules governing access - physical, economic, technical status - are quite explicit from this fairly rigidly-coded urban design.**

This project will exacerbate existing inequalities. It will generate externalities and intensify mistrust, exacerbate risks. It will contribute to building tensions and resentment and a heightened sense of relative deprivation. And that perception and loss of sense of place intensifies the more “open” the site is, the more visible the wealth flaunted. In much the same way as users of the *domaine public* feel anger and frustration vis à vis campement site lessees, owners wanting to enjoy a seamless open view to the sea.

“Seamlessly” is a favourite catch phrase of urban designers. It obscures the **societal, political and personal security risks**, which have barely been acknowledged.

In fact, with all this **intricate social—spatial engineering** we are not told much about the **security arrangements**. We do not see in the social engineering of such exclusive “HNW habitats”, how inclusion and exclusion is to be managed, what the surveillance hard and soft wiring is. There is then this ostentatious display of wealth. Wealth that can appropriate desirable

ecosystems as exclusive features of golf holes, living in a golf villa embedded in endemic vegetation or buffered by mangroves.

- Have the consultants and promoters focused on security, except for its employment potential, or using a seamless web of smart city surveillance and security staff footfalls?

An assessment of claims for social and cultural sustainability in Figure 69

The **overall fatal flaw** is that the very location of a Smart City with these characteristics destroy, undermine or spoil the social-ecological characteristics of the location. It needs to be avoided.

Undertake local consultation- There has not been consultation, just promotion, disguised as information. Refer to relevant section

Protect cultural heritage – it is just seen in terms of tangible cultural relics, without a human-nature approach of the place as a living testimony and observatory of cultural and spiritual values, and other livelihood values across generations. There is no sense of **historical ecology**, of using archaeology as research methods, or narratives of oral history. Despite many of the stakeholder voices claiming these, they do not lead to a change in approach. It seems to have **empathy with the colonising settlers, looking at the site through their gaze**. The contrast with the Bras d'Eau National Park could not be greater in ethos, philosophy, vision, management principles.

Incorporate Public access where appropriate. What determines what is appropriate and who decides? We are far from inclusive participatory decision-making, co-creation and co-management of this site. It flouts core human rights principles. And lays bare the relations of power and authority at play.

Promote ethically and environmentally led procurement. The promoters and consultants have not demonstrated their credentials to promote ethical, robust, sensitive project design and in crafting this report. They should critically turn their gaze and claim to manage on themselves.

Promote community integration and awareness.

- There has been little concern in establishing a baseline which understand actual community use of this space, or of taking into account local voices in crafting decisions about this space.
- The “*do nothing*” scenario is astoundingly self-serving from a profit-oriented and debt-defaulting avoidance promoter.

- It is unlikely to hear the diverse voices - of those aggrieved and acutely aware of the social ecological value of this place – to avoid conversion of this place as the most desirable mitigation option.
- Again, this patronising approach is far from the most desirable end of the spectrum of participatory community-based adaptation to climate change, using nature-based solutions and ecosystem restoration and management.

Promote and improve community health and well-being. The promoter is careful to stress that this applies to “*non-golf-related health and well-being activities appropriate and proportional to site conditions, scope and location*”. We do know how much of an area golf occupies and also about the **exclusive and invisible financial wealth barriers of entry**. It qualifies for residence in Smart Cities and become residents and eventual citizens of Mauritius. Driving a colonising wedge on a Key Biodiversity Area.

We can see the empty claims about employment potential and the overall flawed narrative, in fact unsupported claim, of beneficial social impact.

All these services will be sub-contracted. And we know from where sub-contractors draw their labour, usually through migrant foreign workers, whose contracts do not qualify them as actual permanent residents. This “**subject to the selection of a main contractor**” is an escape clause to postures of beneficial local economic impact, in terms of employment.

6 Construction Considerations

“The construction team are proposing a sensitive approach to the construction process including the site clearance.”

This is a vague sentence. What is meant by “sensitive”?

“The RNSC development has been designed to work with the existing topography, landscape and site features, minimising impact to native/endemic trees and exotic species, wetland and buffer areas and the historical lime kilns.”

As is demonstrated in our comments on preceding and following chapters, the RNSC development has **NOT** been designed “to work with the existing topography, landscape and site features, minimising impact to native/endemic trees and exotic species, wetland and buffer areas...”

For example, site investigation is the process of collecting and analyzing geotechnical data from a site to assess **its suitability** for a proposed project. In our view, even if incomplete, the geotechnical data presented in the EIA Report already point to the **unsuitability of the site for the proposed project**.

The contents of Chapter 6 are therefore of **no** pertinence and have no validity.

7 Utility Requirements

Generally, the EIA report fails to elaborate a clear strategy for the:

- Mobilization of potable water for the proposed RNSC at various time horizons;
- Mobilization of irrigation for the golf course and the landscaped areas;
- Meeting the electrical requirements for the proposed RNSC at various time horizons.

Mobilization of Potable water

It is established that Mauritius is a water stressed country and the reliability of water supply of potable water varies from region to region as well as during the wet and dry season; this is further exacerbated by the significant negative impacts of climate change.

It is the responsibility of the Promoters to carry out such study in consultation with the Authorities (mainly CWA and WRU) to demonstrate how this mobilization will be achieved and their identified the sources and their reliability of supply. No such study has been disclosed in the EIA report. Only statements have been made such as:

“It is anticipated that Smart City will need to be supplied with water from a supplementary source to the existing CWA network. In liaison with CWA, options for upgrading existing and/or drilling new boreholes to supply additional water for the Smart City have been evaluated in conjunction with upgrading and/or construction of new reservoirs / water tanks.”

The above statement contains only intentions but no actual tests or investigations have been carried out; instead, the statement clearly indicate the reliance of the potable water for the RNSC Project on the existing CWA network regardless whether the existing network can actually meet the present demand for the existing communities or not. The uncertainty associated with the mobilization of additional potable water for the RNSC Project should have been addressed through a comprehensive study and from which the impacts and mitigation measures for potable water supply would have been realistic.

Furthermore, as stated in the EIA report, it appears that the Promoter was relying on an on-site water supply for its potable water requirements when it identified it as suitable site for its “smart” city project. However, according to the statements made in the EIA report, the geophysical and geotechnical investigations have, it states, shown that the salinity of the groundwater makes it unsuitable as a source of potable water; save for its mention, the actual level of salinity has not been disclosed nor it would appear that investigation has been made to see whether the aquifer has a sustained yield – the Promoters and their Consultant have not even attempted to investigate the production of potable water from desalination.

It would appear from statements made by the Promoters (in the EIA report or/and their representative) that although the Promoters recognize that a desalination plant is mandatory for coastal hotels of over 50 rooms, it will try to negotiate with the Economic Development Board so as not to have to implement a desalination plant in the smart city (reply of Project Manager Nicolas de Chalain at a public meeting - erroneously and incomprehensibly labelled “public consultation” - held in Roches Noires on 24 April 2023 (page 61 of the Social Impact Assessment (SIA) and page 1061 of the EIA report).

Question 7:

Parlez-nous plutôt du dessalement ?

Réponse Nicolas de Chalain :

C'est la loi de Maurice, qui veut que pour tout projet immobilier comprenant plus de 50 chambres, il faut mettre en place un système de dessalement d'eau de mer pour approvisionner les locataires. Nous essayons de négocier avec l'EDB pour ne pas avoir à développer ce système dans la Smart City. Cependant, nous avons dû répondre aux exigences des autorités en faisant des études de faisabilité sur ce procédé.

It is also noted that the Promoters' representative mentions that “... *nous avons du répondre aux exigences des autorités en faisant des études de faisabilité sur ce procédé*”. It is surprising that the EIA report fails to disclose the feasibility study on desalination and its outcome.

Hence from the above statement among others, we conclude that the assessment of the impacts and suitability of mitigation measures for the mobilization of potable water for the RNSC Project is incomplete and does not conform to the requirements of EPA (2002) as

subsequently amended. Instead, the Promoters rely on the existing CWA network and not only put additional burden on the local communities but also on the public sector to finance the cost of mobilizing this additional water resources.

Mobilization of water resources for irrigation of the Golf course and Landscaped Areas

Again, the EIA report fails to provide a quantitative and quality assessment for the mobilization of irrigation water principally for the Golf course and the landscaped areas of the proposed RNSC. According to the EIA report, the golf course will require 1100m³/d for the irrigation of the Golf course. There are several statements made in the EIA report that indicate that the stormwater collected in the several detention ponds will be used for irrigation. However, no water balance has been disclosed in the EIA report to lend support on the availability and reliability of the storage ponds to provide the daily irrigation water. Given the existing climatic conditions and the impacts of climate change, it is highly likely that supplantation of water from other sources will be required at least during several months every year.

The following statement made in the EIA report reinforces the above:

“The golf on the other hand shall provide for irrigation via the retention ponds located within the golf. The pond shall be fed via the stormwater systems and via offsite boreholes.”

Section 7.2.1

No indications are provided on the offsite boreholes (location, sustained yield etc.) and most certainly from the same aquifer.

We have also noted some general statements made in the EIA report of using treated effluent from onsite wastewater treatment plant for irrigation – however it is known that the rate of production of treated effluent is a function of the rate at which the occupancy rate of the residential areas and other facilities progress – and it is clear that once the golf course is implemented, the irrigation needs start immediately.

Again, the lack of rigor in the development of a clear strategy for mobilization of irrigation water and the impact assessment of the strategy are significant shortcomings of the EIA report and does not meet the requirements of the EPA (2002) as subsequently amended.

Mobilization of Electrical Requirements for the RNSC

The EIA report fails to disclose a clear strategy for the mobilization of the electrical requirements for the RNSC Project for the various time horizons although the report quantifies the electrical requirements at various time horizons.

The EIA report makes mentions of a tapping from CEB Amaury sub station but does not disclose if CEB has been consulted or not.

There is no assessment/analysis of the capacity of the existing network to provide the electrical requirements at the various time horizons. However, there is a significant risk of power outages in the immediate to short term particularly during the summer season when the electrical demand increases significantly; this will be exacerbated on account of the increased in temperature due to climate change.

Again, with no clear strategy, the RNSC project will further burden the public network.

Hence we consider that the impact assessment and mitigation measures are insufficient.

8 Ecological Survey

The EIA report based its ecological assessment principally on the ecological survey carried out.

First of all, we reiterate that the EIA report failed to examine the uniqueness of the Site on account of it being forest land and is recognized as the last remaining and best relic coastal forest of Mauritius; this unique feature should have eliminated the Site during site selection for these types of development including this project or any other residential development.

Furthermore, the fact that the EIA report admits that the whole Site has not been surveyed for various reasons, clearly demonstrate that the environmental impact assessment is incomplete and hence not conforming to the requirements as per EPA 2008 as subsequently amended.

It is also evident that more than 90 percent of the vegetation cover including the numerous trees (not enumerated in the survey or determined elsewhere in the EIA report) will have to be removed for the Golf course itself – land clearing of this extent will have irreversible impacts and it is not surprising that the EIA report is mute on these irreversible impacts as the only conclusion would have evident. Please refer to the map showing the overlay of the masterplan on the google map.

We shall provide general comments on this section to identify further shortcomings that contributed to the failure of the EIA report to recognize the sensitivity and uniqueness of the Site.

Vegetation survey methodology

The described methodology used to conduct the vegetation survey is very vague and cannot be considered as robust enough to provide reliable results. Key information such as the dates of the surveys, their duration, the number, length, and area of transects and the number of observation stations are not included in the report. These should be at least written in the methodology and ideally shown on a map as well. Additionally, no information is provided on the type of data collected during the survey. Was it only a species list? If so, important

additional information such as the status of the different species (mature/growing/senescent), their phenology, size would have been useful to add.

Zonation

With regards to the zonation, the zones seem to correspond roughly to the development zonation and do not necessarily reflect ecosystem zonation. If the surveys were to classify the status of the different zones of development separately, this type of zonation can be accepted. However, when assessing vegetation quality, these zones should have been much more refined and results shown at a much smaller scale. The zones that have been used include different habitats like lava flow, wetlands, coastal forest. Therefore, a general vegetation quality score cannot be given for all these different habitats combined. Especially if the scoring has been defined based on a limited number of observation points instead of a representative sampling effort. Today, high resolution vegetation mapping can also be used of this purpose, especially in remote locations.

Vegetation survey result

The report only provides a list of the species that have been observed, without any mention of their abundance and their distribution in the study area. It talks about dominant species in different areas but does not explain how dominance is defined. Based on which figures? In the report, it is also said that 75% of the site was invaded by exotic species. How was this figure calculated if no aerial or comprehensive survey has been completed?

Wetland survey

The same comments made above for the vegetation survey can be applied here. In the report, wetland vegetation has only been broadly described, again using only a species list. No information on the number of observation stations and their location is provided and no information on the abundance of the different species observed is provided.

We also note the absence of an explanation of how the boundaries of the wetlands have been established. This is crucial information.

As the site was not surveyed in its entirety, it is likely that existing wetlands have still gone

undetected the mores so that the presence or absence of watercourses, natural drains etc have been identified.

Fauna survey

The major issue in this section is probably the complete absence of methodology detailing how the survey was carried out. Without such information, the results cannot be validated as these could as well be random observations or even species records from external sources.

For the fauna, specific surveys should have been carried for the different groups of organisms (e.g. a special method to assess reptile diversity, another one for the birds, and another one for mammals). As presented, it seems that the species list that has been produced comes from opportunistic observations and therefore it is likely that a lot of data has been missed.

As for the natural habitat, the native fauna of Mauritius has been almost completely extirpated and it is important to protect the remaining populations that survive on the island. This is very important at the global level but also to preserve the genetic diversity of the populations remaining on the island, ensuring a better survival in case a new threat emerge.

Complete lack of discussion and interpretation of the results

When conducting such ecological survey, the most important part is the interpretation of the results obtained and putting them in their ecological context. Coastal vegetation, lowland forest and wetlands have been virtually completely destroyed in Mauritius and therefore, the rare remaining pockets of those ecosystems should really be protected. The report provided unfortunately doesn't put any of the results in perspective, doesn't provide any information on the ecological role of the species and habitats observed, on the importance of the connection between the different habitats, and the risk they face if fragmented or completely degraded. What about the risk of flooding due to limited absorption capacities following development? What about the risk of increased erosion and sediment run-off in the barachois?

It has been shown in the literature that a buffer zone of only 30m around mangrove is not adequate if the objective is to preserve it and its ecosystem services. With such heavy

development in the direct vicinity of the barachois and the other wetland identified in the area, these coastal ecosystems will surely be affected by an influx of sediments during construction, potential pollution, and increased water run-off following construction due to the removal of the surrounding coastal forest. Nutrient-cycling will be affected during and after construction as well, which will also impact the barachois and wetland that risk to be more prone to eutrophication.

This does not factor in climate-related risks of extreme events of greater frequency.

We note with concern that the Promoter proposes to discharge directly into the Barachois and marsh SW09, the overflow from culverts. (Figure 8 Storm Water Layout in Chapter 11 Land Drainage Assessment). This proposal has been made without any assessment of the volume and physico-environmental parameters of the water from the four culverts which are **point-source discharges** into the Barachois and marsh SW09 (Map 1.2 Map of sampling sites Chapter 9). There has been no assessment of the potential impacts of these point source discharges on biodiversity.

The mitigation measures proposed offer no guarantee of avoiding or minimizing negative impacts when such land clearing and modification of natural ecosystems are carried out on such a scale. (see overlay of masterplan over the site below). Additionally, if the baseline is flawed and roles of ecosystems are not assessed, impacts cannot be correctly assessed and the mitigating measures proposed have no pertinence and validity.

With regards to protection of biodiversity, retaining only pockets of biodiversity after massive clearing of land is meaningless as its associated ecosystem would be absent, having been destroyed irreversibly.

In conclusion, the major problems with this section of the EIA reportt are the following:

- (1) the absence of clear description of the methodology used for vegetation and fauna surveys,
- (2) the limited results obtained (only species list) and whose reliability cannot be confirmed based on the lack of methodology, and most importantly,

(3) the complete absence of discussion on the importance of the habitats and species observed, their ecological role, and the consequences development will have on them; for example the impact that the proposed storm water system will have on the biodiversity of wetlands (see 7.7.1) has not been addressed. This is again another instance example of the absence of assessment of engineering/environmental interactions.

After taking the above into consideration, it is likely that the neutral scores for marine fauna, and barachois and mangrove fauna in the Natural Capital Assessment will instead both be negative.

Supporting documents are provided in the Appendices (See comments from Dr Christine Griffiths and Pierre Baissac).



Overlay of masterplan over the site

8.4 Natural Capital Assessment

Assessment of natural hazard given same weightage as recreational

The Natural Capital Assessment reported in the EIA Report gives an overall negative score to the project: -9 over 17 Ecosystem Services Categories and 30 Description of Services.

PML considers that this score is highly questionable as several impacts have not been adequately assessed in the EIA as demonstrated in this document. For at least five Ecosystem services categories (Habitats to Flora, Regulate Natural Hazards, Nutrient Recycling, Pollination, Shoreline Protection) we consider that the scores (11 in all) assessed as neutral or positive are highly questionable. For example, the score for Wetlands +1 is not supported in the baseline data provided in the EIA report.

Hence, we consider that **the overall score is in our assessment as -20 over 30 Description of Services instead of -9.**

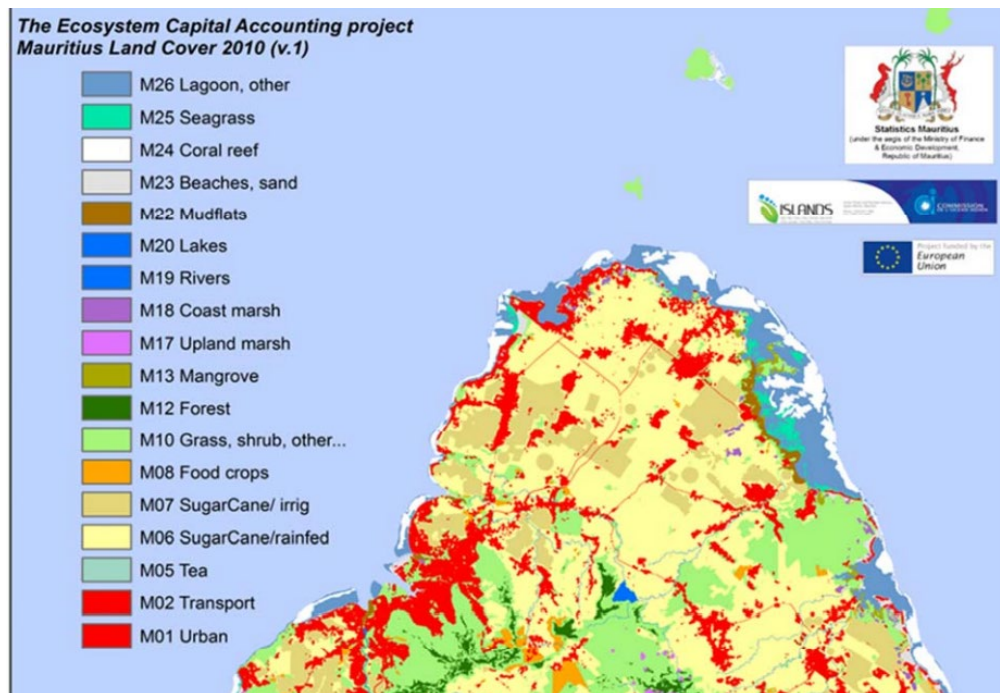
As no methodology for the allocation of scores is disclosed we are not aware if weightage was applied to the assessment categories. If an equal weightage was applied, then the negative scores for the above mentioned ecosystem services categories would be even larger. For example, Education and Research seem to have the same value as Regulate Hydrological Balance.

The interface with the System of Environmental Economic Accounting- Ecosystem Accounting framework (SEEA).

It must be noted that Mauritius was part of a pilot for Natural Capital Accounting which was preparatory to the finalisation of the SEEA- Ecosystem Accounting framework by the UN Statistical Commission.

A section of the map, regarding land cover, incorporated in the NBSAP 2017-2024 Report, is reproduced here. It does show the relative importance of the KBA encompassing the site.

Figure 1 The relative size and importance of the Ecosystem capital area of land cover under grass shrub and other vegetation covered by the site



Source: *Land Use in Mauritius*, (Weber 2014), in *National Biodiversity Strategy and Action Plan 2017-2025* :17

For the Rivière du Rempart District over 2000-2010 the area under urban cover has increased, presenting conservation and restoration challenges. It will have certainly increased even more.

The Project intends to fragment the M10 land cover into urban and transport patches!

The issues are how the NCP can be reconciled with the SEEA-EA which Mauritius is striving to build the capacities to be able to adopt. And whether it can, fully applied be the standard guiding decisions.

- As such the negative overall assessment means that the Project should not be allowed to proceed in an acknowledged “sensitive” site

9 Marine Biota Survey

“The objectives of the marine survey were to:

- Generate a list of existing fish species, benthic composition and macroinvertebrates.*
- Provide a database against which short or long term brackish & marine environmental impacts of future coastal development project can be determined.*
- Collect baseline information on brackish & marine species and their abundance within the study area.*
- Establish permanent transects to enable future environmental audit.” – page 160*

It is surprising to note that although the barachois and adjoining wetlands are described as major features of the site, yet only a marine biota survey/assessment is included in the EIA Report. The potential sources of negative or positive impact on the marine life of the onsite water bodies and the lagoon are not assessed.

No recommendations have been made regarding the ways and means to avoid or minimize negative impacts on these ecologically sensitive areas (ESAs). Indeed, this does not seem to have been included in the ToR of the marine consultants and the EIA report failed to provide appropriate mitigation measures.

It appears that the Promoter's sole concern is to measure the impacts post-development and not to take appropriate measures to avoid negative impacts on these ESAs.

In this regard, we reiterate our previous comment on the proposal of the Promoter to discharge directly into the Barachois and marsh SW09, the overflow from culverts. (Figure 8 Storm Water Layout).

It is recalled that this proposal has been made without any assessment of the volume of the water highly likely to be laden with pollutants from the four culverts which are **point-source discharges** into the barachois and marsh SW09 (Map 1.2 Map of sampling sites Chapter 9) and the potential negative impacts can be significant on the biodiversity among others.

The EIA report fails to assessment of the compounded effects of storm surge, sea level rise,

high tides and extreme rainfall events particularly on the coastal areas of the Site and its immediate vicinity.

Misinterpretations noted in the Marine Survey:

➤ Table 6 (page 15 Marine Biodiversity Survey)

The sensitivity scoring system proposed in the report takes only into account the local legal and regulatory framework but fails in the process to take into account the conventions signed by Mauritius such as the Nairobi Convention which gives **seagrasses a critical value**. In the Marine Biodata Survey, seagrasses are given a medium sensitivity value, which is erroneous. Seagrass is one of the major ecosystems found within the tropical zone (along with coral and mangrove ecosystem) providing numerous ecosystem services as mentioned in the conclusion on page 130 of the biodiversity report. To note that the Roches Noires lagoon harnesses an extensive seagrass ecosystem. Kindly refer to ESA report 2009 for Mauritius for more information on importance of seagrasses and its coverage in the lagoon.

- It is mentioned that the Poudre d'Or Fishing reserve is located approx. 6km to the northwest of the site. In fact, the fishing reserve extends from the mainland shore opposite Ile d'Ambre to Pointe Roche Noire, meaning that most of the site is opposite the Poudre d'Or Fishing reserve. (page 49).
- It is stated that *Haplophila decipiens* was observed. Even though there seems to be a dispute in Mauritius with regards to the *Halophila* species, only *Halophila ovalis* and *Halophila stipulacea* are reported to exist in Mauritius in scientific literature. (page 165).
- Due to the high level of juveniles observed within the mangroves found in the wetland, it should be considered as a **high sensitivity zone of critical importance**. (page 169).
- The sensitivity map found at Figure 87 does not show any region of major sensitive areas. However, the region is composed of coral species, 4 out of 5 seagrass species observed in Mauritius and mangroves (page 173) which are the main marine ecosystems found within the tropical zone. As it is, those three ecosystems provide a suitable healthy lagoon if well maintained and protected. The criteria used to draw up the sensitivity map appear to be ambiguous.

10 Geotechnical Investigation

The comments to this section are made with reservations about the hydrogeological conditions on the site, as stated in our Preamble.

The report by Water Research Ltd dated May 2023 states in its Introduction that *“Investigations and assessments related to the hydrogeological conditions on the site are presented on a parallel Report on the topic to be issued in the next few weeks.”* However, this “parallel report” has not been found in the EIA Report submitted to the MoE on 31 August 2023 and accessed through the e-licensing platform of the EDB on 04 October 2023. The Ministry of Environment was made aware of this. In its reply to us, it informed us that the Consultant had been informed and that the missing report would be sent to us as soon as received from the Consultant. At the time of writing our comments, this “parallel report” had not been sent to us.

General comment and preliminary observations

- i) The proposed engineering solutions/environmental interactions are not demonstrated clearly, leading to underestimated/erroneous impact assessment.
- ii) A master plan for the whole site was included in the first EIA report for the Hotel component submitted in April 2022. Geotechnical investigations for the whole site were conducted after the application for an EIA license for the Hotel component was set aside by the Minister of Environment in May 2022.
A comparison of the two master plans reveal that there is **no discernable change.**



A. Location of coreholes, trial pits, boreholes.

“Access to the investigation positions were carried out from the 24th of October 2022 to the 11th of November 2022 using a JCB back-hoe excavator. Figure 3-3 presents in yellow the path cleared for access to the investigation positions while the white ones are the routes that existed and were accessible. Access was particularly difficult due to dense vegetation and

rocky areas. Figure 3-4 shows the vegetation present on site during clearing.” – 3.2 Access preparation, report by Water Research May 2023.

It appears that the location of coreholes, trial pits and boreholes was determined by accessibility on the ground and that no aerial scanning of the site has been undertaken prior to preparation of the layout plan.



“Figure 3-2: Access Clearance on Site”

B. The grid of the geotechnical investigations carried out has a very loose spacing and the results from the coreholes and trial pits seem to reveal wide disparities in soil and subsoil composition between coreholes.

C. Layout of the project.

It is deeply concerning to read that no geophysical surveys such as Ultra-Wide Band Ground Penetrating Radar or other appropriate scanning technology (including aerial) have been conducted before the design of the master plan when the layout of the project with built load and densities as well as golf course siting had already been planned.

It is even more concerning to read that the consultant does not recommend such surveys but only writes that such surveys and confirmatory drilling may be implemented during detailed design stage.

Mitigating measures (Chapter 16) states that regarding Cavities:

“If cavities are encountered during the construction of the structures, they should be broken down using heavy hydraulic hammer and backfilled using the available Rock Weathered Basalt Material found onsite.”

“Further geophysical investigation of cavities using geo-radar method on proposed building footprint should be conducted before construction.”

Should it be reminded that this site is a sensitive natural site that has known very limited human intervention, unlike sugar cane fields where there have been earthworks in the past, including derocking and obliteration of natural drains.

The Promoter **cannot therefore affirm** that *“Consequently, considerable care has been taken in the development of the Masterplan to preserve the existing character of the site including areas of endemic vegetations, mangroves, barachois, wetland and historical features. The Developer has worked with the site topography and existing landscape features to arrive at a layout that minimises impacts to the environment in terms of earthworks...”*

Furthermore, the EIA states that *“Cavities if encountered during the construction shall be delimited (extend) and bridge using ground beams or floor slabs. Relocation of structures may also be recommended **if allowed by the project layout.**”* (Note that this measure is different from the measure mentioned four paragraphs up).

This clearly means that **the Promoter has not designed the project to avoid or minimize impacts to the environment with regards to earthworks.** If *“Relocation of structures may be recommended if allowed by the project layout”*, then not only have the Promoter and the consultant not correctly assessed the sensitivity of the site but they have prioritised the already defined project layout over avoiding major negative environment impacts.

The above comments are clear demonstration that the EIA report does not understand the Environmental/ Engineering interactions that need to be considered and evaluated before the most appropriate Engineering solution is considered; this problem is further compounded by the lack/insufficient of baseline data.

It is clear that the Promoter has prioritized topography and landscape over surface and sub-

surface sensitivity. This is a major flaw in the EIA Report and leads us to question the validity of all environmental and ecological impact assessments regarding avoidance and minimization of impacts to ecosystems and ecosystem services and corresponding mitigation measures.

It also needs to be reminded here that the first EIA report submitted by PR Capital was set aside by the Minister of Environment, Solid Waste Management and Climate Change **because of the “sensitivity of the site”**.

D. About cavities

“Cavities were encountered in most coreholes with the exception of CH 2. It was observed that the number of cavities in the coreholes increased in the northern direction with CH 1 having the least amount and CH 6 having the most along with the deepest. The deepest cavity in CH 6 (located closest to the coast) was more than 8 m deep ranging between 12.80 m (bgl) and 21.00 m (bgl) at which depth the cavity is filled with water based on the groundwater level reported in this corehole (~2.6 mbgl). Some cavities were encountered in al (sic) coreholes at depth varying between 1.30m (bgl) and 14.76 m (bgl). The height of the cavities varied between 0.09 m and 1.88m.”

8.1 Geology.

The environmental/ecological impacts of the Mitigating measures mentioned in A. have not been addressed in the EIA report. This is a major deficiency of the EIA Report:

- Does sea water reach the cavities? If so, what will the impact be during high tides, and especially during swells?
- Do the cavities have biodiversity present? The EIA report does not address this at all.
- Do the cavities contribute to land drainage, especially during extreme rainfall events? If so, what will the impact be? Has the impact been assessed when designing the land drainage system, network and drains?
- Is there a possibility that material from the filling material used can reach the lagoon with moving ground water and salt water intrusion?

E. Caves, lava tunnels or pits (ESAs)

The chapter does not state whether caves, lava tunnels or pits were found and mentions only cavities. This despite the desktop study mentioning that the area contained all the above:

*“The lava flows consist of a sequence of massive basalt strata with vacuolar (vesicular) strata and volcanic breccias on top of maximum thickness of 100 metres. These basaltic flows (Hawaïtes) were generally very fluid and rather homogeneous completely filling existing surface irregularities before overflowing towards the sea from the main topographic notch already partially filled by intermediate basalts. **Late lavas contain lava tunnels and the collapse of the roofs of those tunnels created pits.**”* Geology 10.1

F. Impact of surface and sub-surface characteristics on siting of built components

Though incomplete, the information disclosed in the EIA report reveals the great heterogeneity of sub-surface characteristics across the site, which by itself leads to question the validity of the geotechnical survey with respect to the design of the layout plan, as pointed out above.

In several cores, the presence of water from the water table was noted and in other cores the presence of seawater was noted, the level of which varies according to the tides, indicating that the subsoil and the sea are connected. If expansive clay is present - in unsurveyed areas of the site for example -, it can potentially lead to a “slippage” of structures built on top. Together or individually, these can potentially have great impact on structures. The type of foundations needed in this case may not only prove to be costly but more importantly, ineffective.

- **If this is confirmed after the EIA License is issued, will the Promoter still go ahead with its “development”?**

G. Recommendation by Geocrust Ltd in 2022 EIA Report

We note that the 2023 EIA makes no mention of a general recommendation made by Geocrust Ltd in 2022 EIA Report, viz 7.0 GEOTECHNICAL ASSESSMENT AND RECOMMENDATIONS:

“The following recommendations are based on the information available on the proposed developments (structures), observations made at the subject site, interpretation of the data obtained from the subsurface investigations and our experience with similar soils and subsurface conditions. Since the soil test represents a very small statistical sampling of the subsurface conditions, subsurface conditions could vary substantially from those indicated by the soil test drillings. In such instances, adjustments to the design and construction of the proposed structures might be necessary, depending on the conditions encountered. Our professional services for this assignment address only the geotechnical aspects of the subsurface conditions encountered based on present site investigation program at the site.”

- What will happen if the EIA license is granted, the main through road built and appropriate geophysical surveys subsequently reveal the presence of major and/or numerous cavities throughout the site and/or of other geological features that have an environmental impact?
- Not only will this imply compounded negative environmental and ecological impacts, and substantial additional financial costs, but it will above all mean that **the Minister of Environment will have given the go-ahead to a major project on a sensitive site (by his own admission) with major irreversible environmental impacts not having been assessed.**
- Hence with all the above uncertainties, it is evident that the EIA report does not conform to the requirements of the EPA 2002 as subsequently amended.

11 Land Drainage Impact Assessment

As per the EIA report, *“Currently, most of the catchment areas influencing the project site are mainly vegetation/ forests. There are 24 catchments located onsite and 12 catchments located offsite.”*

Although the report provides data on flows for various return periods, yet it does not provide an analysis on the risks of flooding both onsite and offsite. With regard to risks of flooding offsite, i.e. to existing communities, the more so that the report recognizes that there are depressions on site where water accumulates. However how the subsurface flows connecting offsite to the proposed Development Site have not been identified and since the topography of the Development Site will be significantly modified, that may result in the impedance of these sub surface flows, the flood risks of the surrounding vicinity have not been assessed.

The extent of flooding on the site during and after extreme rainfall conditions has not been assessed.

- It has not been demonstrated that the detention ponds, swales and other SUDS, and drain networks proposed will be sufficient to prevent flooding by maximising infiltration and minimising runoff when the site will be altered from “mainly vegetation/forest cover” to golf courses (whose permeability will be less than with the existing surface and subsurface conditions) with the retention/flow velocity reduction provided by the roots of the forest trees and built-up areas including road and other infrastructure.
- No water balance is provided on the proposed stormwater plan.
- It has not been demonstrated that the proposed artificial storm water collection system in low-lying areas currently acting as storm water collection areas during rainfall extremes and cyclones will be sufficient to compensate for the loss of those whole areas.
- It has not been shown where the water not going in the detention ponds will be going.

- The compounded effects of sea level rise, storm surges, high tides and very intense short-duration rainfall have not been addressed in the EIA report.
- The implementation of detention ponds to take a portion of the peak flow does not demonstrate the elimination of the flood risks within the site and certainly not off sites.
- No risk assessment in case of failure of the proposed detention ponds on the surrounding natural and built environment have been carried out.
- Filling up of cavities as a mitigating measure is purely an engineering solution devoid of the environmental aspects that are associated with these cavities, once again a purely engineering solution without an assessment of the environmental/Engineering interactions.
- The drainage impact assessment has not taken into account the impact of land changes including significant modifications to the site topography. There has not been a flood hazard and risk assessment onsite and offsite (upstream and downstream of the Site). This despite floods being a matter of great concern to the population at large on account of recent flood events in areas previously not considered to be flood-prone or flood-risk areas.

Impact of the proposed land drainage system, network and design on biodiversity and ecosystems not assessed.

See our comments on 7.7.1:

“The stormwater systems will be designed to cater for the difference between the post-development runoffs and pre-development runoffs and during adverse climatic conditions, a natural overflow from the retention basins will be allowed to the wetlands as a means to preserve the aquifers.”

This indicates that the artificial land drainage system proposed will deprive wetlands and the Barachois from most (how much?) of the water they receive pre-development.

- No assessment has however been made of the impacts of this artificial system on the biodiversity of wetlands and of the Barachois.

As the EIA report has not demonstrated the features and quality of the aquifer, it is argued that since the Site is a forest land with very limited human intervention, the forest land and existing ecosystems have been natural barriers to protecting the local aquifer. However, the mere statement made in the EIA report that '...., *a means to preserve the aquifers.*' is pure wishful thinking as it is not supported by scientific data – wishful thinking is not environmental assessment and certainly not in conformity with the requirements of EPA 2008 as subsequently amended.

Point Source Discharges

As indicated elsewhere in the comments, presently the Site is mainly forest land. Furthermore, there are no visibly water courses or natural drains on Site and the EIA report fails to confirm their presence or absence. Hence it appears that surface runoffs are diffuse in nature with flows following the natural topography, partly percolating into the ground and partly accumulating in the low lying areas.

With the proposed project, the topography of the Site will be significantly modified with the result that there will be several drains that will collect runoffs and discharge them as point sources. Indeed, it is noted, that:

(a) Four **culverts will discharge stormwater** into two natural water bodies ((i) the Barachois (ii) marsh SW09 (as per in the Ecological Survey))¹⁸ (see Figure 8 Storm Water Layout on page 37 of the Drainage Impact Assessment).

It is known that stormwater is laden with pollutants, including suspended solids, chemicals, heavy metals, persistent organic pollutants among others. The EIA report fails to (i) assess the impacts of the stormwater discharges together with their pollutants on the existing biodiversity and water quality, (ii) adequate mitigation measures etc.

¹⁸ There is no comprehensive map with all wetlands (wetlands, barachois, marshes, bogs, natural ponds) labelled in the EIA report.

What is also evident from the Land Drainage Impact assessment is the strictly engineering approach without taking into account the environmental/engineering interactions within and outside the proposed development Site. The examples are numerous but we'll mention a few for illustration:

- (a) Low lying areas: The engineering approach is to site the detention ponds in the low lying areas without indicating whether these low lying areas are wetlands (which they are). In as much as the ecological survey fails to carry out an ecological assessment of these low-lying areas (at least during one dry and one wet season), the Engineer just decides to site their ponds there! One wonders why then do an ecological survey of the Site, even an EIA study!!
- (b) Barachois: The biodiversity of the barachois depends on the equilibrium between inflow of seawater at high tide as well as seepage of fresh water through diffuse flow. Here again the Engineer just decides to disturb this equilibrium by discharging stormwater via a point source discharge highly likely laden with pollutants. Furthermore, even from an engineering perspective, there has not been an assessment of the effects of peak stormwater flow discharge coupled with high tide conditions/sea level rise in the vicinity of the Barachois Site within and offsite.

Impacts of climate change: The Engineer fails to take into account the impacts of climate change on its engineering works – for example drains are being designed for a return period of 1 in 25 years and culverts for a period of 1 in 50 years. In the light of the increased in intensity with short duration storm, how does the IDF curve takes into account the effects of climate change? The EIA report is mute on this.

- **The neutral score assigned in the Natural Capital Assessment ‘Regulate natural hazards’ – Flood mitigation is highly questionable.**

It also appears that there has been no consultations with the National Disaster Risk Reduction and Management Centre.

Hence based on the above observations and comments, PML considers that the issue of **risks of flooding onsite and offsite due to the proposed RNSC development has not been addressed comprehensively in the EIA report as per requirements of EPA 2002 as subsequently amended.**

12 Climate Change Assessment

We note that the EPA states in Section 18 that:

(3) Without prejudice to subsection (2), the proponent may, where applicable, be required to include, in the EIA report –

(a) an ecological assessment of the site;

(b) a vulnerability assessment and proposed adaptation measures with respect to climate change;

(c) an estimation of greenhouse gas emission attributed to the undertaking, and associated activities within the physical boundary of the undertaking, over its life cycle.

[Added 11/2020 (cio 22/4/021).]

[S. 18 amended by s. 30 of Act 11 of 2020 w.e.f. 22 April 2021.]

“Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1 °C above 1850–1900 in 2011–2020.

Global greenhouse gas emissions have continued to increase, with unequal historical and ongoing contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and among individuals.”

The impacts of climate change have not been quantified save for some light statements on climate change. Despite the EIA Report making broad statements on climate change and mentioning “**land use and land-use change, lifestyles and patterns of consumption and production**” among the drivers of increased GHG, it makes **no connection** at all about how the RNSC will contribute to an increase of GHG emissions through land use and land-use change (deforestation), lifestyle and patterns of consumption and production of its targeted clientele (high spending clientele, increase in imports of goods (during construction and operation), increase in energy consumption through overseas travel (tourists and residents).

Deforestation

According to the CBD, “*a forest is a land area of more than 0.5 ha, with a tree canopy cover of more than 10%, which is not primarily under agricultural or other specific non-forest land use.*”¹⁹

The development of the RNSC will therefore result in deforestation (see the CBD’s definition of deforestation below) and **deforestation is a key driver of GHG emissions and land degradation.**

Deforestation	The conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10 percent threshold (see definition of forest and the following explanatory note). Explanatory note: Deforestation implies the long-term or permanent loss of forest cover and implies transformation into another land use. Such a loss can only be caused and maintained by a continued human-induced or natural perturbation. Deforestation includes areas of forest converted to agriculture, pasture, water reservoirs and urban areas .
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<https://www.cbd.int/forest/definitions.shtml>

It appears that the Promoter has not conducted an estimation of the above-ground biomass although resources and smart technology are readily available to that end.

Analysis of above-ground biomass shows this area contained 5514 tonnes of biocarbon in 2017, and 6084 tonnes in 2020 (last data published). It is one of the few permanent carbon stocks in the North of the island.²⁰

Greenhouse gases and carbon sequestration

¹⁹ <https://unfccc.int/resource/docs/natc/maunc1/chap3/chapter3.htm>

²⁰ ESA CCI database (European Spatial Agency Climate Change Initiative)

The EIA Report contains no estimation of GHG emissions as might or might not have been required by the MoE. However, the fact that the EIA report states the project is sustainable and follows sustainable development practices, meeting IFC standards etc. it should have assessed the GHG emissions pre and post project development – that would have lent further support if that is the case. Unfortunately, the EIA report chose to content itself with mere statements hoping that the reader will readily accept them – however, this is not the case. The report contains **no assessment of net GHG emissions and net carbon storage and sequestration values** pre-development and post-development.

There are no estimates of net gain or net loss.

The EIA Report is therefore **not in conformity with IFC’s PS 3: Resource Efficiency and Pollution Prevention** which states:

*“Greenhouse Gases 7. In addition to the resource efficiency measures described above, **the client will consider alternatives** and implement technically and financially feasible and cost-effective options to reduce project-related GHG emissions during the design and operation of the project. **These options may include, but are not limited to, alternative project locations**, adoption of renewable or low carbon energy sources, sustainable agricultural, forestry and livestock management practices, the reduction of fugitive emissions and the reduction of gas flaring.”*

Sea level rise

*“Agriculture and mangroves occupy about 45% of the coastal frontage. Agricultural activities will be under risk as a consequence of saline drift from sea-spray that will contribute to land degradation through salinisation of neighbouring soil. **Mangroves are expected to retreat inland.**”²¹ UNFCCC, chapter on Mauritius*

This impact of climate change on the characteristics of the site has not been assessed in the EIA report.

Furthermore, it is expected that the proposed 30-m buffer around the mangroves will be

²¹ <https://unfccc.int/resource/docs/natc/maunc1/chap3/chapter3.htm>

reduced as the mangroves, and wetland, move inland; yet again the EIA report fails to assess this impact and hence the suitability of the 30m setback taking into account the impacts of climate change.

Land drainage

The land drainage assessment has not addressed the impact of compounded effects of storm surges, sea level rise, high tides and floods during extreme rainfall events with regards to the proposed land drainage system and design.

Overall comments:

This chapter is stuffed with general descriptions lifted out of the global and national documentation about the status of climate change and strategies and targets related to mitigation, adaptation and resilience. The three concluding paragraphs make unsupported, bold claims about how the RNSC “*encompasses all the above*”.

We would expect this chapter to pull together all the different technical solutions to reduce carbon footprints embedded in various parts of chapters. Or indeed that the Project is actively engaged in climate proofing, climate risk management as a central spatial, urban design and operational principle.

It does not. There has not been any demonstrated application of these norms, targets, instruments, tools processes to the assessing this particular project’s impacts.

As already remarked in the Regulatory framework sections, it fails to locate the viability and **acceptability of its project** by intersecting

- Climate risk adaptation and disaster risk reduction
- Nature-based solutions to climate change adaptation²²
- Approaches to resilience based on the stresses, anxieties, insecurities, fears on mental, physical health and well being.

The project intensifies the coastal settlement load, increasing the costs of any managed retreat given the uncertainties we face. It adds to the “*bétonisation equals flooding*” **perceptions** in the

²² Also UNEP, IUCN (2021) Nature-based solutions for climate change mitigation.
<https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/37318/NBSCCM.pdf>

face of experienced local climate change disruptions and disasters. This perception is now fast percolating into public attitudes and fostering grievances and fears, and in particular, in the rainy season.

Will such a project with its specifications, pass the test of compliance to funding mechanisms and platforms such as the Green Climate Fund? We certainly do not think so!

Does it demonstrate a transformatory approach to maximise the co-benefits between mitigation, adaptation and sustainable development?

- Will it be seen as a suitable candidate for the Sub-national Climate Fund, which leverages private investment for climate action at sub-national level²³?
- Will investment finance view this conversion of land use from forest and ecosystems to built environment as part of low emissions and climate resilient pathways?
- Does it generate the robust, credible data for applying new valuation methodologies for climate-resilient infrastructure and to lower climate physical and transition risk?

No, on all those counts!

Is the project's financial architecture sustainable? If its investment will be funded by debt, the space for private debt for non-climate compliant is shrinking. We note that the serial abandonment of incentives under various schemes over the years on this site has stumbled partly on financing shortfalls.

- **Perverse incentives and hidden subsidies²⁴** have lured many private developers. These are seen as human drivers of degradation and climate/biodiversity risks. The **political economy set-up underpin investment choices** in Mauritius. It is directly and indirectly driving **unsustainable investment**.

If funded through equity, then it will be mostly through **private wealth planning expatriate investors looking for real estate investment, with or without permanent settlement and residence status in offshore havens and jurisdiction such as in the Republic of Mauritius**. Unlike Seychelles and Barbados, we do not have as yet the capacities and setup to qualify for green bonds.

²³ Green Climate Fund: Financing Climate Action, our transformative approach.

²⁴ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) 2019. Summary for Policy Makers of the IPBES Global Assessment Report on Biodiversity and Ecosystem Services.

How does it fit into the bigger picture of addressing key financing gaps to address climate change adaptation and mitigation?

Economy-environment implications at macro, meso and micro level.

We contend that this private investment - incentivised by public sector policies and which have public finance implications - does not fit under the umbrella of climate-compliant investment which includes biodiversity.

It runs against the efforts undertaken to address **financing gaps** acknowledged in the Nationally Determined Contributions of 2021 (NDC).²⁵ The International Monetary Fund Issue Paper of 2022 examined the perspectives for accessing climate-related finance instruments. The gaps exist because of the “*limited fiscal space and elevated debt vulnerabilities*” [IMF:20].

The Report highlights that “*UNFCCC data suggest that Mauritius accounts for only 0.01 percent of the global GHG emissions. Yet it is among the most exposed to natural disaster shocks and ranks low in terms of adaptive capacity (World Risk Index 2021)* “. It also notes that the NDC’s “*key objectives are to **expand the knowledge base on climate change risks and their impact on communities and increase resilience of human activities** by improving governance and enhancing disaster preparedness and response, notably for infrastructure. The adaptation framework also integrates **policy interventions** for Fisheries (Blue Economy), **Tourism, Biodiversity, Forestry, Agriculture and Coastal Zone.***”

Adaptation to climate change would need the bulk of the funding. It is currently under-funded. The IMF Selected Issues Paper advocates **reforms to expand direct access to climate financing** such as the Green Climate Fund above. These reforms are as wide-ranging as they are far reaching, at multiple levels. To build capacities and give the right signals, incentives and conditions for both public and private investments.

We are far, very far, from the glib assertions in the few paragraphs in this chapter.

The measures include being able to track planning, appraisal, execution and reporting of climate-related projects. Review regulations on land use and building codes; strengthening the capacity for ex-post reviews of climate-affecting and climate-related infrastructure projects.

²⁵ IMF Country Report No. 22/224 July 2022, Selected Issues Paper

- This would also apply to **public land adjacent to the site such as the stretch earmarked for a second airport.**

We have **very few sites left** which provide the characteristics of ecosystem-based climate mitigation and adaptation. **We urge that this site should be earmarked as a learn-do pilot in being able to access such finance for worthy climate and biodiversity compliant investments. It again underscores our assessment that the best mitigation option is to avoid conversion in order to engage in steps towards the restoration of this remnant of coastal lowland forest and strengthen adaptation capacities.**

13 Assessment of the predicted environmental impacts

We contend that the deficiencies in the various baseline data that we have been able to identify do not allow a qualitative and quantitative assessment of predicted impacts despite the attempt in the EIA report; this is clearly not in conformity with the requirements of EPA 2008 as subsequently amended.

Aside from deficiencies in baseline data, we have put forward in numerous instances in our comments that the EIA Report has not correctly assessed the proposed project against several critical criteria such as vulnerability of the site to climate change, impacts of land use change from a forest to an urban area, impacts on biodiversity and ecosystem services. The EIA report has failed to recognize the uniqueness of the site and the irreversible effects the project will have.

We also contend that instead of Moderate Adverse or Major Adverse, several of the Significance of Impact given in Fig. 106 should have been Extreme Adverse. This would confirm the unsuitability of the Site for this type of development.

We make the following additional comments:

We object to the following being considered beneficial.

- Pedestrian access
- L. Socio-economic (L.01) employment and L.02 expectations
- M. Heritage
- N. Visual

We state this for a variety of reasons, considered in the respective sections. In the case of socioeconomic assessment these are **simply wrong conclusions**. They are not what their other lengthier sections in the social impact assessment says. It is not what one can definitively conclude from the write up of the misnamed “consultation” meeting, which shows more nuances and specific objections and their own introductory remarks about mistrust etc.

Furthermore, their work produces a very weak patchy, knowledge and database to objectively

verify and build an overall picture of the now, before or after.

We contend that it is simply how the promoters view their intentions. But that does not translate in actual outcomes.

14 Mitigation Measures

In the light of our comments to various chapters of the EIA report, it is evident that the proposed mitigation measures are severely flawed and cannot be remedied.

We strongly contest the validity of the rating given to Significance of residual impacts in the table of mitigating measures.

As we have demonstrated throughout this document, impacts have not been correctly assessed, at best are flawed and hence this raises severe doubts on the sufficiency/validity of several of proposed mitigation measures.

- Deforestation cannot be mitigated.
- The irretrievable commitment of resources (potable water, unhindered access to natural green areas) to the detriment of Project Affected People facing scarcity of resources will not be mitigated without an additional mobilization of water resources from other catchments of the Island.
- Point source discharge of storm water highly likely laden with pollutants from roadsides into wetlands that pre-development receive a diffuse flow of fresh water cannot be mitigated.
- Strictly engineering measures that do not take into account environmental/engineering interactions cannot be mitigated.
- The impacts of destroying fully functioning natural ecosystems and replacing them by ill-conceived artificial systems cannot be mitigated.
- Regarding employment, measures that are in hypothetical mode cannot be assessed as beneficial.
- Destruction of areas of heritage value and interest cannot be mitigated.
- Increasing vulnerability of a site with regards to climate change cannot be mitigated.

- Introducing a high level of human disturbance, including noise and artificial light, in an undisturbed natural space inhabited by endangered native bird species cannot be mitigated.
- Fragmentation of natural habitats cannot be mitigated.
- Natural nutrient recycling can only be very imperfectly mitigated through use of organic fertilisers.
- The heat effect caused by the destruction of forest cover cannot be mitigated outdoors, and only through the use of energy intensive air conditioning indoors.
- Land degradation caused by urbanization cannot be mitigated.
- Some of the Mitigating Measure sound more like wishful thinking than realistic measures. For example, over and above sounding more like a recommendation, the sentence “*All plants removed from site should be used as biomass for compost organism to be used for the landscaping structure after development.*” does not explain how all vegetation cleared from the site for the creation of an 18-hole golf course (say 60ha) will be composted, what area (size and location) will be assigned to the composting process and how long the process will take.
- The assessment that employment is beneficial and requires no mitigation measures is speculative.
- The classification of socio economic expectations as moderate adverse is partly borne out by its own field work. But the items it chooses to address and the mitigating measures are subjective, vague and unsupported. Promotional communication will not mask a poor product. Even if this EIA Report had been summarised and communicated to stakeholders, their negative perceptions will remain.
- The project has failed to draw up a baseline along the lines indicated in our two Text Boxes. It has not done so in a participatory way that respects locals’ own citizen science, perceptions, valuations and bring out the diversities and conflicting perspectives. It has been and is more interested in selling the project’s own assessment of its benefits to the local communities.

Given such a flawed and contested baseline, what possible Key Performance Indicators (KPI) and targets, milestones can it devise? It needs a Theory of Change approach to move from validated situation analysis to framing objectives, strategies, targets and indicators. It just cannot pull out KPIs at implementation stage. This much is now standard practice, which it fails to adhere to.

What passes as mitigation measures at construction stage are actually objectives that it fails to address and are unlikely to meet. For example, as far as climate change is concerned at construction stage, this is just a menu of desirable objectives, that its description of its own project features and processes, detracts from. What it sees as mitigation measures are in fact Objectives, which its situation analysis and project baseline, should indicate strategic corrective measures, It is all so confused!

15 Socio Cultural and Socio-Economic Impacts

This section of our comments is organised as follows:

There is first the outline of a conceptual and analytical framework from which we assess the Report's treatment of social, economic and cultural impact.

- **It can be skipped or referred to without losing sight of our substantive comments.**

The core of the substantive comments is organised as follows

- 1) The **various comments in earlier chapters** regarding such impacts are succinctly summarised and consolidated in this section
- 2) The **comments made to the previous EIA** are included here. The gist of the comments is still very relevant. At the same time, this **seems to be an iterative exercise** ("Setting aside" the EIA, in view of the enlarged scope and encompassing the entire Project Site and requiring an EIA, and not just hotels). For us it is important to see whether what had been assessed regarding the impacts on the affected communities, have been taken on board in this new exercise. As well as our comments on the gaps and biases.
- 3) The **comments to the current EIA Report are then made in the light of the broadened scope and potential range of adverse impacts and potential opportunities, as well as the mitigation strategies and measures proposed.** It is also assessed based on the conceptual lenses in Text Boxes 1 and 2 and good practices of SIAs

Conceptual and analytical frame to assess interlinked social, economic, cultural and environmental impacts

We refer to the conceptual frame outlined in the preamble (**text box 1**). **To which we add Text Box 2 below to complete the outline of our approach to social, economic and cultural impacts.**

Impacts by, on whom and how experienced?

A Human Rights Based approach

Our conceptual and policy framework, indeed philosophical framework to assess is human rights-based.

- It underpins the SDGs, the Rio Conventions and the Sendai Framework regarding disaster and risk reduction.
- It is a common frame and a converging way of addressing development challenges, current crises and multiple intersecting risks
- It is citizen-centered at all levels, from the ground up. Accountable to people on the ground.

The Polluter Pays Principle at the core of the Environmental Protection Act.

We need to assess Nature's Contributions to People in this location and in turn who is impacted and how through what the Project proposes, given the current baseline. We need to **anticipate** to arrive at crucial decisions regarding the Project.

- It is the purpose of the mandatory Environmental Impact Assessment and of its criteria as spelled out in the relevant articles.

This is because we consider that **the Polluter Pays Principle entails that the Pollutee has rights.**

- These **rights as pollutee** are to participate in decisions impacting on them, to be included, to not be discriminated against, either in law and/or in fact. To be treated equally. These are core human rights principles.
- We need to understand why people are in this situation. The causes of impacts. The **drivers of impacts, human and non- human.**

From the State, who is Party to international conventions and agreements, there is an **obligation** as authorities for compliance and care, to exercise due diligence. It is for the state to protect and respect the rights they have signed and ratified.

It is the State that is vested the power to “*do no harm*”, have “*no regrets*” “*Put the last first*” and be accountable to those.

By commenting on the EIA as per the EPA, we are exercising our rights as environmental stewards. These human rights are now nationally conferred legal rights. The rights that people as citizens have should drive the EIA process, as pollutee. Not the putative polluters.

But are all people the same, impacted the same?

- We cannot presume. We do not know until we investigate and give ourselves the means to know. By various means, especially putting those affected first.

From a human rights point of view we need to assess, analyse from a particular lens (See Box 2 on next page).

Human beings are heterogeneous, diverse. These global differences play out locally. The site of the proposed Roches Noires Smart City seeks to attract mostly expatriate High Net Worth Residents

Human beings have different characteristics, capacities, values, beliefs, and are in different power relationships.

There are differences and disparities based on **gender, age, income, ethnicity, kin colour, faith, occupations, nationality, material and financial wealth, social capital and political capital**. Many of those overlap in complex, shifting ways. There are **differential capacities** to take up opportunities, benefit or be **excluded and discriminated, of incurring damage and suffer loss**. They benefit differently, impact differently and are impacted differently and inequitably.

Human beings relate to nature and use green space and locations in diverse and complex ways. They benefit from contributions of nature as well as become victims of deteriorating environmental conditions, of exposure to risk and disaster, in different, complex ways. They have different perceptions. And they get caught in dynamics of conflict. These conflicts are exacerbated by climate change and erosion of biodiversity and loss of ecosystem functions- shrinking resources and the more so where there is weak governance to uphold the rule of law, assert Pollutee Rights and make Polluters Pay.

- *This awareness entails an **intersectional*** gender and human rights-based analysis, which needs to inform the entire policy and project cycle.*
- *Given our history, our memories and feelings, it entails a **decolonial perspective**, uncovering and rejecting new forms of colonisation.*

** intersecting factors of difference and inequalities- gender+age+ income+ethnicity*

Understanding of context and how the different dynamics play out in specific sites is crucial. Especially when trying to substantially hard -wire and soft- wire **gentrification through colonising a green space**.

Most of all, a gender and human rights-based approach entails a participatory approach, which respects the rights and roles of stakeholders and persons affected to be fully aware, voice out, shape and decide on any project affecting them and influence national and global decisions.

Such an approach is now becoming wired into environmental, social and cultural safeguards.

The social impact assessment in this Report is disrespectful to say the least on so many counts. Our comments below demonstrate this.

The Promoters and consultants approach to SIA.

How have the Promoters gone about their task? Their Profiles and CV do not indicate any past experience and knowledge in these fields. But that should not be a problem. As long as they can and ought to give themselves the means to know the subject and then apply it through their own skill and knowledge base. And provided it is demonstrated in their Report.

- Has the Project given itself the means to know about the communities and individuals, as in Text Boxes 1 and 2 of international good practice in developing an ESIA to inform an Environmental and Social Management Plan?
- Have they complied with EPA requirements for EIA, regarding economic, social and cultural impacts?

We note that the Consultants have not at all framed the social impact assessment the way that is now normalised (See the section below on international good practice). That is revealed in so many ways as has already been made clear in the earlier chapters.

The treatment of SIA in previous chapters

We highlight in the **Table of Contents** that environmental and social impacts are segmented. The **organisation of the Report** is bemusing. Previous chapters entail socio cultural impacts that are not made explicit.

- a. This SIA chapter is considered after assessment of predicted environmental impacts and of climate change.
- b. The section of public participation and consultation is directly linked to this chapter but is considered apart from it, a few chapters away.

The **Background chapter** acknowledges mistrust and negative perceptions about the project's desirability.

It declares that it minimising negative impacts to the environment and reinforce social integration. It seems to take it on board that it has done this successfully.

However, the focus has clearly shifted to generate and promote a product for its eventual customers, the main beneficial and marketable impacts of benefiting from natural assets.

That leads it to lean more on promoting the Smart City than investigating thoroughly, rigorously and without promoter bias, the economic, social and cultural impacts, as per EPA legal provisions.

The project description chapter makes sweeping unsupported claims on employment benefits to locals, which it treats as self-evident. The net economic costs and benefits in terms of foreign exchange are not evaluated for an import-intensive operation and foreign travel intensive activity.

The regulatory framework chapter is skimpy, inadequate and selective in terms of what it lists and outlines. It barely mentions the relevant norms and standards, targets. Nor works with it throughout its rationale, project objectives, design and implementation. The omissions reveal the lack of seriousness of the treatment of ecological, social, economic and cultural impacts.

The chapter on site description and surrounding environment is equally sketchy. It is the case in regard of current human use of the site and its treatment of demographics and settlement patterns.

The Existing Base Line Conditions chapter does not include the existing patterns of customary use of this site, of how nature contributes to people, by the populations supposedly affected. The conceptual frame is blind to human-nature interactions, as specified in Text Box 1.

How it can rigorously determine who are the Project Affected Communities and Persons is thus baffling, to put it mildly.

The Project Description chapter shows the extent of the social and spatial inequalities to be created by the project's real estate objectives, by its urbanising design and dwelling and overall "habitat" preferences of the unknown residential owners. It does this generally through its social and spatial engineering project.

We consider that the High Net Worth Residents lead to a process of and **gentrification on new settlements which colonise the green space.**

The term inequality is not used by supposed social and spatial scientists. Yet the project is crafted to **create social spatial stratification and patterns of social inclusion and exclusion** in the project space.

Their approach to community integration and awareness is top- down and patronising with deep cultural and class biases. It presumes that ecological awareness-raising can somehow be modelled only through its on site - *in situ residential accommodation and features*. Unaware, or

choosing to ignore or find out that what it will educate on already exists, and being carried out by other stakeholders. It also introduces here the proviso that local employment benefits depend on who its subcontractors will recruit. Clearly local sourcing of staff is not mandatory.

The flaws and omissions in the **ecological survey chapter** are compounded by not adopting a social ecology approach, which uncovers patterns of human-ecosystem interactions.

The very inadequate **climate change assessment** also fails to consider human-nature risks and vulnerabilities, grounded in the local knowledge it is required to generate regarding who is impacted by climate risks and how and to craft adaptation and resilience approaches.

The **assessment of predicted environmental impacts** draws the wrong conclusions about beneficial social impact assessments among affected communities.

Given that the **mitigation measures** are already a given of its design and features, it proposes none. It just substitutes vague aspirational objectives as concrete measures! As it has no social impact baseline, stemming from the lack of a Theory of Change approach, internalising risks and assumptions, it is **unable to generate robust, monitorable Key Performance Indicators upfront at the design stage.**

But maybe the narrative of the Social Impact Chapter will potentially fill gaps and biases.

We urge that the Consultant **cannot be allowed to re adjust** - sort of set aside this current report-, in the light of our comments, in order to improve its chances of approval. It should not be due process, without having developed it in a participatory way in the first place. We also **urge transparency and reciprocity in the exchange of information.** What is communicated to them as requests for additional comments and how is that an improvement?

We contend that our objections are substantial enough and quite likely, others' comments are equally so, for the Consultants to have **to reengineer their whole Report barely to meet minimum requirements.**

But the Project already has had a second chance, another iteration.

- We had previously commented on the social impact assessment. On looking at this new presentation, we find the earlier comments still valid and pertinent.

We therefore present these, before addressing the new elements in this Report with a different team of consultants.

Our comments to the previous EIA Report

Note: These are highlighted in pale grey.

“Social Impact Assessment

The overall assessment that the impact of RNSC is positive in the mitigation section [14.2.2] is unsupported by the study’s own qualitative and descriptive data in both earlier subsections of section 14 and the more detailed Annexe 8 sections .

- There is very little methodological rigour about how the population has been selected, no gender analysis.
- When both pros and cons of employment are brought out, there is no way to assess whether that is overall positive or not, or whether there have been conversations to arrive at a consensus.
- The mitigating measures are just theoretical ones about positive direct and indirect multiplier effects of an investment/urban implantation without a baseline.
- Yet the voices of the inhabitants have captured what has been known from other studies, that the presence of hotels and PDS style SMART Cities offer little guarantee of local employment. There is almost a feeling of the implantation of an alien invasive species.

The study is silent on who the new residents short and long term are likely to be.

- They cannot be considered as putative local communities and the design evokes their interaction with ‘nature’ : *“The aim is to maximise the potential beneficial impacts to terrestrial biodiversity during the operation by developing an ecologically rich landscape which enhances the existing natural features of the site. Architectural and landscaping concepts have been designed to integrate the proposed Resort Hotel development and allow the buildings to blend with their surroundings, to minimise areas of managed turf and maximise landscaped ecological habitat”.*

“Impact 2: Feeling of helplessness among the PAP.

- There is a feeling that if the promoter gets the approval of the Government for the project, the PAP will not be able to stop or change it even if it is harmful for them.”

“Impact 3: Destruction of wildlife and heritage.

- The inhabitants fear the wildlife and heritage they cherish will be destroyed, and that they will not have access to the beaches and the seafront enclosed within the smart city.”
- Although access to the beach and seafront will not be compromised, Impact 3 is an irreversible impact as the whole site full of wildlife will be almost completely destroyed and access almost completely restricted.
- The loss of ownership of this cultural, environmental, and social heritage to which the inhabitants have had free access for generations is irreversible if the project goes ahead.

“Impact 4: Perceived risk of flooding of residential houses if cavern eco-system is mishandled.

- This is a risk that has been mentioned repeatedly by Roches Noires inhabitants; this area needs greater consideration during technical surveys.”
- The above has not been addressed in the EIA Report as only surface run-off had been addressed. Local knowledge and understanding of ecosystems are to be valued and
- it is clear that the approach goes against co-management by local communities of ecological diversity, integrity and livelihoods.

The SIA does not report on livelihoods generated by the present state of the RNSC site.

- Either PAP have not been queried about it because the SIA Consultants did not see it as important, or the PAP have not responded as the site is off bounds legally.
- However, it is a known fact in the community that the honey collected from beehives present on site is a source of income. There is no information either on the barachois being a source of bait or food for professional or amateur fishers.

In their Conclusion and Recommendations, the SIA Consultants, DCDM Research, write:

- *“In this context, the smart city appears as something that will be for the rich or for foreigners, but that it will not be for them, that they will have no access to the smart city, whether to purchase a residence or to do shopping or enjoy leisure activities there; they are not even sure to get employment or more business with the smart city. Some also think that foreigners will impose their new culture on the inhabitants.*

- *Moreover, the respondents fear that the smart city will deprive them of the quietness and the contact with nature that they cherish. In short they think that the smart city will not bring them any good.*

There is also a diffuse feeling of helplessness towards the project that it will go on even if the inhabitants do not want it.

- This is due in part to the absence of communication around the smart city, and also to a perception that the Government will favour the project and not safeguard the public interest of the villagers.
- These feelings are likely to generate frustration and resentment among the villagers, and to prevent a smooth cohabitation between the villagers and the new residents of the smart city.” SIA – 9.1.1 Feeling excluded from the Smart City.

Assessment against the Post 2020 Global Biodiversity Framework²⁶.

The RNSC will contribute to the following regressive results against the vision, goals and targets of the Convention on Biological Diversity:

- The Vision is a world of living in harmony with nature where “by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.” The project goes against this, by destroying what people value about nature’s contribution to them
- **Goal A** refers to increasing the area of natural systems, their connectivity and integrity. The project decreases that.
- **Goal B** refers to valuing, accounting for, enhancing nature’s contributions to people: the project will destroy these values as strongly feared by local communities
- Under the rubric: Meeting people’s needs through sustainable use and benefit-sharing, **Target 9** is about ensuring benefits including nutrition, food security livelihoods and protect customary use of local communities . This is what the project will also go against, as well as **Target 12**. Increase the area of, access to, and benefits from green and blue spaces, for human health and well-being in urban areas and densely-populated areas. In

²⁶ <https://www.cbd.int/doc/c/914a/eca3/24ad42235033f031badf61b1/wg2020-03-03-en.pdf>

fact the projects urbanises and encroaches on natural spaces, while denying access to the large site areas, unless in restricted corridors.

- **Target 14** is about “*fully integrating biodiversity values into policies, regulations, planning, poverty reduction strategies, accounts and assessments of environmental impacts at all levels of govt, and across all sectors of the economy, ensuring that all activities and financial flows are aligned with biodiversity values*”.
 - This forms the basis of an **SEA** and how to assess smart cities’ claims to greening.
 - Again the project falls well short of that and all along the decision-making chain that produced this proposed RNSC.
- Additionally, **Target 15 is about business responsibility**, to reduce negative impacts and increase positive impacts.
 - The project has not made a comprehensive and accurate assessment of all the likely impacts and possible mitigating options, including that of not going forward with the undertaking...
- **Target 20 is about ensuring that relevant knowledge, including traditional knowledge** of local communities, guides decision-making for the effective management of biodiversity and
- **Target 21 is about equitable and effective participation in decision-making related to biodiversity by local communities, and respect their rights** over land, territories and resources.

With the business-driven EIA modality, we are far from this paradigm. It is precisely the paradigm shift towards community-led models, ecosystem-based environmental accounting to get beyond just GDP and National Income valuation that Platform Moris Lanvironman, PML, has been consistently advocating for during the workshops for developing an environmental master plan.

We contend that the mitigation measures proposed in the SIA are either cosmetic or at best require a profound rethinking and redesign of the RNSC physical master plan in conjunction with a social master plan and strategy.

Assessment of the present SIA Chapter

Benchmarks of good practice.

The following are core principles as set out by the Inter-American Development (IADB) developed by their Environment and Social Safeguards Unit (ESG).²⁷

The SIA should **promote**:

1. Equal opportunity, inclusion, and sustainability in a project setting
2. Local benefits, community development, and capacity
3. Empowerment and social capital

The SIA **should**:

4. Be a proactive and integral part of project planning and implementation, interconnected with economic, physical, environmental and other issues
5. Address both risks and opportunities
6. Be rigorous in its use of data, which may include quantitative as well as qualitative data
7. Be widely applicable in different contexts and settings
8. Build on local knowledge and participatory processes, and reflect diversity in culture and values
9. Respect and promote human rights, transparency and accountability, and the rule of law¹⁵

The SIA **should not**:

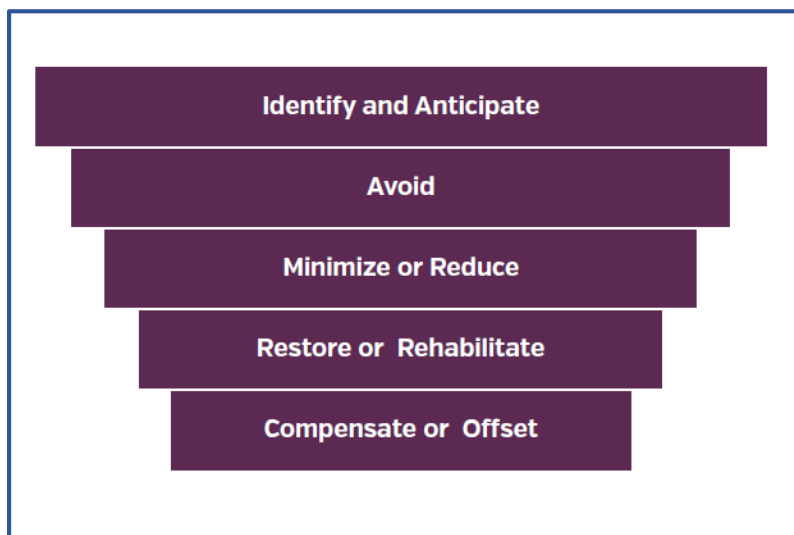
10. Apply coercion or undue force

Based on these principles, outcomes and results are more important than process and procedures. While careful studies, consultations and planning are essential, even the best plans can go wrong. The SIA process plays a crucial role during implementation, in providing continued data and facilitating stakeholder engagement that allows for ongoing monitoring and adaptive management of the program.¹⁶

- It traces the logical sequence of steps to apply an environmental and social risk mitigation hierarchy.
- It endorses an intersectional gender and human rights analysis as in Text 2, starting with the Identification and Anticipation Stage of risk analysis (See Figure 2 below). But which is carried out throughout the project design and formulation, planning, programming, through to evaluation, adaptive management cycle for ongoing projects

²⁷ Inter-American Development Bank (2018) *Social Impact Assessment. Integrating Social Issues in Development Projects*. IDB Series on Environmental and Social Risk and Opportunity

- It states that this is increasingly done through a coordinated and integrated (*our emphasis*) Environmental and Social Impact Assessment- ESIA.



Source IDB 2018

Introductory paragraph

The SIA declares what is the Area of Influence. But it does not say how it determines this. It states the primary objective is to assess the effects on the local community, to propose actions to “*consolidate benefitsand propose actions to mitigate consequential challenges*”.

- It does not use the central concept of RISK assessment (potential impacts and opportunities).
- It states that it has used a participatory approach, involving Project Affected Persons (PAPs) through various qualitative methods

It appends a full copy of the SIA to this section of the Report.

We wish to make the following observation

- Its assessment of expected impacts, is considered beneficial. **We have already flagged that this is unsupported by the ensuing narratives.**
-

Baseline Description of Impacted Region

The treatment of which are PAPs and what is the Area of Influence is light and not rigorously established.

- It states that the village of Roches-Noires is the primary area of investigation.
- Is it because it is primarily affected? In addition, regarding the other localities, the assessment is skewed towards simultaneously emphasising benefiting from the project as well as not be adversely impacted from it: Rivière du Rempart, Pointe des Lascars, Poste de Flacq.
- Surrounding localities have also been consulted. But we have no way of knowing how the asymmetry in the distribution of benefits and adverse impacts have been established. Nor on why Roches Noires village is the primary area.
- Is it through establishing existing patterns of use of the Project Site?

We are not told about the research strategy.

- It **should be there in the summary** without having to delve into the appended report. And have to compare the latter's translation into the body of the SIA chapter and again compare with its summary conclusions in other chapters.

The baseline description is a thin one. The demographic data presented is not referenced.

- We do not know what to make of the age distribution of the population in terms of patterns of impact (adverse risks) and benefits.
- There is **no age and gender disaggregation**. And we are left pondering why the Focus Group Discussions **target only young and adult men** apart from mixed ones. Even in **the mixed category**, there is no data and analysis in terms of **intersectional characteristics and identities**.
- Is the **gender bias** because of unavailability of women and girl participants or lack of concern or both? It is no excuse that all the researchers are men. One needs to modify research strategy to include excluded groups. That is the whole very basic rationale of a FOCUS GROUP discussion as an integral part of social research.
- The comment about Roches Noires being among the “least developed” VCAs in Mauritius is just so casual. It clearly does not see that it is based on a Village Council Area, Municipal area, **relative deprivation index** at household and community level amenities based on Housing Census data. It could use its later description of community

level amenities to understand why, as well as the fuller treatment in the appended SIA Report.

- Its data in the appended report is derived from the Housing and Population Census (HPC) of 2011. It just does **not use the available data from the HPC of 2022, as far as Housing Census is concerned**. The latter shows highly relevant baseline information that we will not point out to them, at this stage.
- **We wish to stress that the Consultants have NOT updated their information to develop a socio economic baseline using secondary data.**
- It does not use any data about the distribution of the population within the income percentiles, based on Household Budget Survey, following each Census, in this case 2011, to look at income levels and in association with occupational groups and employment status, at household and individual level. It would however be out of date as in 2023, a new Household Budget Survey is being conducted.
- **It does not acknowledge data gaps as part of a desk review and how it has strived to fill them through their own primary research strategy.**

The ensuing **description about the village level amenities, mobility and connectivity** patterns is **anecdotal and indeed journalistic**. We are not informed how this description is arrived at, subjectively and by whom and through what process,

- That villagers (who?) have to go to Rivière du Rempart or Flacq for shopping (for what?) is as informative or diagnostic of deprivation as saying Helvetia residents have to go to Bagatelle or Tribeca Malls or that London Supermarket in Rivière Noire includes those from La Balise Marina, La Gaulette and Chamarel – (the latter with dedicated bus service)... A small village does not support the range of retail items, even when affluent or not. And the pattern of shopping is also linked to employment and social visits.
- It is curious that the patterns of social and economic interactions with the wider districts level economy and beyond have **not been identified and mapped to create a baseline for its claim that the RNSC will stimulate the local economy**.
- It does not consider whether and how its whole gamut of mitigating features in terms of creating RNSC- level activities to dynamise the local economy, **may not be an addition**. It carries the **risk of displacing existing economic relationships within the village**, as

well as modify patterns on interaction within the wider regional economy. They would be adverse impacts of gentrification, changing the dynamics.

Glaring Gaps. There is **no mention of government and or political institutions. Nor of socio-religious ones, often poles of social interaction**, organisation of festivals, patterns of involvement, alignments and tensions. The **Village Council is not identified**. Nor its composition and activities described. Even when the basic government services are just mentioned, we have no sense of patterns of use and their roles as place to meet and connect with others, no sense of the patterns of social interaction, from an intersectional gender perspective. This thick description is lacking. It is not found in the appended Report.

Spatial organisation

This brief section informs on the spatial segregation in 4 clusters.

- It is not clear how the consultants have observed that there is minimal contact among the clusters.

Physical distance in terms of place does not entail social and economic distance. Nor that children do not play because there is no playground. It is hard to observe children playing when there are many playgrounds. Many of which are underused. How and where do children spend their time? Who organises these activities?

We have seen how supposed consultation, local promotional, canvassing activities and “social impact research” events, actually seeks buy-in and coopting. The scepticism over this has been well articulated in the Social Impact Assessment. Of lures and “broken promises”.

What does the report contribute to knowing about “ project affected individuals”? Virtually nothing that is meaningful, valid, and objectively verifiable, with a clear methodology.

There is no thick, granular description of the adjacent locals’ livelihoods, aspirations, ways of **work live play**: living, working, commuting, connecting in social, family and community networks, and playing. We hardly know about their gender, social, other intersecting differences and disparities, dynamics of power, status, levers of influence, patterns of discrimination, their political, social, cultural and natural and patterns of interacting or not with that site. The snippets of anecdotes and broad extrapolations from small and questionable samples and research strategy hardly qualify as social and economic impact assessment from a risk point of view.

- **It is not surprising that they have not been able to use their data to generate a social and economic project baseline.**

The premise that it is spatial organisation and hard dedicated structures that determine use and interactions is not entirely borne out globally and locally. Otherwise, there would not be white elephants littering the private and public development landscape.

- It is important to stress that the rigidly-defined and engineered urban scape does not mean that much in terms of actual patterns of social, economic and cultural interaction, conducive to social and cultural flows around these structures and their place-making location.
- **Malls are not necessarily markers of social inclusion.** Ostensibly visible physical access does not mean that other **invisible markers of social class or ethnic-based and or gender inclusion/exclusion** are not at work.
- Domestic employment in gated or “ungated” affluent clusters does not indicate equitable inclusion.

This much is generally acknowledged and the range of concerns expressed in the reports of group discussions or question and answer sessions in the annexes of the appended SIA express these very much.

It is however unacceptable that a month long footfall in the area of Interest among Project Affected Communities by a male anthropologist researcher should be so invisible and unusable to inform decisions about the Project and the local dynamics influencing perceptions of the Project.

- This anthropological lens does not provide the contextual baseline data and knowledge to uncover and map the existing web of relationships; and pattern of uses of the physical structures and obvious nodes of social interaction and community engagement.
- By not uncovering these power and influence relationships, we are unable to gauge the dynamics or not of various forms and **degrees of coercion** in influencing assessment of risks and opportunities. (*Refer to the IDB’s SIA Guide*)

Gaps and omissions.

The spatial organisation does not discuss the overlap with more administrative

organisation. The Roches Noires VCA straddles two districts. How does that affect the VCA? What are the nature and extent of links between the relevant district council? What are the characteristics of those in Flacq and how do they use the site? Unanswered questions.

The exclusion of the most deprived cluster is manifest. It is in Flacq that the “deprived cluster along the coastal road” is situated. The Housing Census 2022 contains more data but also many gaps in key indicators regarding this cluster. Why? The Project shows that it has checked who are on the Social Register of Mauritius (SRM) among them. But we also know how the SRM has errors of inclusion, particularly of the most deprived. They fail to make the Register. How do they now depend on the ecological resources of the barachois, which will be close to more layers of luxury hotels and villas, as well as bungalows? How will active exercise of privatising and urbanising the site change this? There is no consideration of this.

The non response of the more affluent cluster is not a valid research argument. For this population group, different approaches, as with the most deprived have to be devised. It is the obligation of an intersectional research approach and strategy.

The common ground of these four clusters as well as those deemed outside the area of Interest is the current uses and valuations of the Project Site.

- But we not have this as a baseline .
- It is a major flaw.
- It is so especially as the anecdotal, exploratory indicators are there in the meeting write up to devise an appropriate research strategy. If one is a researcher. And if that was the research question identified, and if it was addressed using participatory citizen science approaches.

Again it is another failure to use international SIA best practice and contextualise it applied to the characteristics of the sensitive site in question.

Social Impact Assessment

Perceived Impacts. This is another misnomer. *Ex ante*, all impacts are perceived, that is, anticipated and to be addressed. It is all about anticipation and identification in the risk mitigation hierarchy. In fact the entire claims contained in the project description could also be entitled as **perceived or assumed (& accurately mitigated) benefits by the Promoter and**

consultants, *ex ante*.

- The description of the misnamed consultation is flawed and biased. Other sections of these comments have considered this aspect. Here we could say that the treatment of the potentially affected or influencing either positively or negatively is not according to international good SIA practice.
- The summaries of the risks and benefits in these paragraphs do not reflect what is in the more detailed information in the appendix and particularly in its annexes.
- There has been little attempt to analyse and synthesise the results with rigour and objectively, fairly. **It all points to interviewer and promoter bias.**

Such a sentence as in the “*light of these concerns and expectations, the people are looking forward for an inclusive development creating job and business opportunities that does not destroy the environment and does not threaten the survival of the endemic species, both flora and fauna. The residents also request the creation of a market for local products, a sports and leisure facilities for younger groups and green spaces before completion of the construction works*” **is unacceptable and a misrepresentation, distortion.**

So is the following sentence: “*the villagers are anticipating socio-economic opportunities, such as new job prospects in hotels and opportunities for small and medium enterprises (SMEs), as well as the introduction of modern shopping, banking, and leisure facilities. As such the promoter and other stakeholders will have to establish some lines of communication and involve the community in the development process.*”

We contend that

- **the expectations of the communities (undifferentiated) regarding opportunities and continuing access (rather than exclusionary management of a privately owned piece of land) can be obtained without establishing a smart city on the site itself.**
- **Without, would also remove the strongly held concerns about gentrified urbanisation as well as risk of damage to ecological processes and destruction of a range of socio ecological values, including existence value- for its own sake.**
- **The damage and loss is irreversible: it would forfeit the option value of alternatives to reinforce the status of the site for Other Effective Area-Managed Conservation Measures, which contribute to ecological restoration.**

The Social Impact annex

This annex contains the entire report by the SIA Consultants, including their mitigation measures, translated into Project description and site description as well as recommendations for planning, monitoring and management.

This part of our comments relates to the SIA dimensions. We have already - in the section on Project and Site descriptions - shared our assessment of the social spatial inequalities wired into the project design. The Consultants have given their own assessment of the predominantly positive outlook for the RNSC with recommendations for actions to mitigate in view of concerns.

We contend that **this assessment is subjective and is not borne out by their own flawed findings.**

- We wonder if this is not because of the **lack of effective independence of consultants hired by the main consultants**, given the constraints and dynamics of the market for such services.
- We also wonder whether the “villagers” are not made to **feel resigned that this project will go ahead regardless**, and better try to get the most out of it.
- In both cases there exist **subtle elements of the coercion that is to be avoided by good SIA practice.**

In any case, the non-participatory character of informing and then selling a project that has been already designed, is evident. It shows limits to participation, a caricature of what bottom-up community driven, public collective action should be. Legitimated through national and subnational policy and planning processes, albeit driven by both private and public stakeholders. **The elected Councils have not been involved in the planning process.**

The Smart City Concept

We make the following observation and critique.

There is no strategic evaluation of Smart Cities nor is there a Strategic Environmental Impact Assessment of Smart Cities. This is crucial to understand cumulative impacts.

Social Impact involves both specifying **before and crafting after** in the site in question **as well as comparing with other Smart Cities** to gain insight over time about how claims *ex ante*

actually play out. And what that means for adaptive learning and management for new ones. None of this is displayed here to enable assessment of this Project.

- Just **comparing with Azuri in terms of physical exclusion is not sufficient**. Just what access it is blocking to, in terms of location is more relevant.
- More important is whether claims of dynamising local and the national economy, quality of life, life changes etc are actually borne out and how.

Baseline description of Impacted region

- The consultants have not updated the indicators relevant to the Relative Development Index from the Housing Census 2022. They are quite illuminating.

Stakeholders in the RNSC Project

The definition of a stakeholder being able to represent other PAPs and only when he has a locus standi to be heard by other stakeholders is contentious. Would then the only legitimate stakeholders be the elected village council?

The notion of representation as voice clouds the picture in a human rights-based approach. For example, a key stakeholder is considered to be the PPS of the constituency. Is he not part of the executive arm of government and what is his sphere of influence? We can't answer this because the presence of political stakeholders at local and national level has not been considered in the socio political analysis.

The anthropologist

There is no valid research documentation from the anthropologist about his findings.

It seems that the broad research brief was to observe and assess the changes brought about by development projects and describe their social impacts on the everyday life of the inhabitants. And to focus on lifestyles of diverse groups and changes thereof, which can be impacted by the RNSC: job opportunities, existing businesses.

It may be that he came up with, in section 8.15 with Expectations, concerns and requests of the local population – PAPs (Table 3).

The table is organised in ways that seem to make connections row wise, until you realise it does not.

The fears are worth dwelling on:

- risks of the Azuri “social experiment”: limited access, promises not honoured;
- risk of becoming a foreigner in one’s homeland,
- risk of nuisance to the environment,
- destruction of endemic species,
- risk of drastic change in the lifestyle of the village.

We contend that these would be magnified and intensified with the RNSC, despite the risk mitigating measures. This is a largescale spatial engineering new settlement colony for High Net Worth Residents.

The semi structured interviews have already been addressed elsewhere.

The FGDs and public consultations

We have already mentioned **how biased the selection of homogeneous groups to focus on is.**

We do not know the sequence of research questions in each of those. We ignore how the meeting of heterogeneous groups was conducted and the mode of identification, selection and composition of the groups and the dynamics observed. The meeting minutes is a farce in assessment terms, just hollow in the mould of administrative minutes. If it was a FGD in the latter case of mixed groups, what was the common focus and purpose?

Administration of questionnaires

It seems a very curious heading. We can now gather that the foregoing served to identify questions and the questionnaire was about how representative these responses were. It is a strange way to organise and sequence mixed methods.

But the more serious concern is about sampling population frame, sample size, sampling strategy with 4 clusters of population diverse in size and identities, and possibly within each cluster.

Target population. Again,

First there is no baseline in terms of existing use (footfall) of the site and for what uses.

- There are methods for doing this with some rigour, which have not been used here. It would overlap with for instance, methods used in the ecological survey.
- The weaknesses of the latter have been brought out. We observe the same lack of rigour and precision and any solid robust presentation of the research design.

- Which we must stress has not used more appropriate participatory citizen-science methods.

In its absence we cannot decide that the sample frame to be used is the VCA population size. It may not be the target. And we don't know who does not tend to use the site physically (gender and other intersectional differences?). And to elicit their views and fears and expectations.

Sample size. It uses the survey monkey utility which gives a sample size of 83.

- It states that an open-ended questionnaire has been randomly administered in the village. But how, where, when? and has it been spatially stratified at all? (sample size is not adequate with diverse clusters?)
- It is unacceptable that the age and sex composition can only be made available on request!
- Especially in view of no FGD targeting (which) women and different age and or ethnic groups.
- It states that answers from questionnaire, “confirms the trends” (?) noted in the semi-structured interview.

We think that

- the representativeness of the sample is not verified and is not informed by gender and intersectional analysis (we cannot disaggregate such a small sample);
- the questions are either not specific and/or not free from bias. If the questions were open-ended, how have they been analysed and grouped ? We do not trust the quality of the exercise.

However, we also think that, despite the limitations and the attempts of the consultants to put a positive spin to the responses,

- the overall responses to Questions 5-6 show the positive valuation of the natural capital assets, specifically to the RNSC site as well as the Bras d'Eau Park and health track;
- The responses about opportunities **do not have to be provided by RNSC**;
- The overall responses Questions 8-10 about development projects are negative;

- it would have been very instructive to probe further regarding why people think they cannot take up these opportunities because of the economic and financial aspects;
- Thus nothing suggests that the RNSC would be the game changer in that regard, and we have no basis to know what the issues are.

Question 17 shows persistent negative concerns about impacts when specific questions are asked about RNSC (utilities, water, traffic, wildlife environment water stress, sports, recreational access) except as regards (promises of jobs, small business opportunities, shopping in new mall). These concerns are valid whereas the opportunities are just speculative and declarations of intentions.

NO responses

- **It is concerning how many declined (27%) to answer because they felt they did not know enough about the issues and also because the promoters would change their minds once permits are obtained.**

This reveals the **non-participatory approach**, promoter-driven throughout, despite claims made to the contrary. And most of all, the **feeling of mistrust about broken promises**. We are then back to what has been said at the introductory background section of the EIA.

The RNSC will fail to deliver. Avoidance is the best mitigation strategy.

The Consultants' own positive assessment is not borne out by their own flawed and superficial research.

16 Environmental Monitoring Plan and Environmental Management Plan

The two EMPs are presented over four pages. The ecological monitoring plan is found in the Chapter 8 Ecological Survey – our comments relative to Chapter 17 are found there.

The EMP fails to make a clear, coherent, and comprehensive link between the ESIA stage and the implementation and management stage. In other words, between the risk assessment and management process.

This is very concerning given the level of risk as well as alternative opportunities (to enhance Nature's Contributions to People), as well as the potential scope and depth of impact.

17 Sustainability Aspect and Enhancement Opportunities

This chapter is redundant in our view. It adds no particular value to what has been presented before.

It is not at all clear how the title matches the themes considered. This chapter repeats what there is in the project description, Then highlights features such as density in urban planning.

There seems to be no focus on how creating a dense urban area on a coastal green field site in fact contributes to weaken its sustainability. This is what its own Impact assessment does clearly show. At this late stage in the presentation of the Report we are left to ponder whether this density and the other features it highlights adds value to the Report if sustainability has already been included in the design and project description throughout and the drivers threatening it are being addressed.

One cannot escape the feeling that it is further window dressing, using generic spatial planning principles. In a quick scan of the contents of the document and its chapter titles, the heading “**sustainability**” ticks the box. But it is not the case when one actually scrutinises it chapter by chapter, sift through it for scope, relevance, effectiveness, depth of new knowledge produced and use of existing thematic documentation, new benchmarks and standards.

The chapter is more revealing in what it omits. As already flagged throughout, a risk-based approach has not been adopted. It is a major, fundamental flaw. What are the attributes of sustainability for this site and in relation to what existing baseline conditions? In this case **density is not risk-reducing.** It exacerbates the potential for disaster and reduces the scope for climate-change adaptation and the scope for developing resilience to natural, or man-made hazards such as major oil spills, which is a continuing severe threat on this coast line. Tellingly, there is **no presentation of the Sendai Framework** in the chapter on the regulatory framework. Nor of the legislation and ensuing regulatory framework as well as institutional framework and mechanisms existing at local level.

The location of the site overrides these urban design considerations. In the bigger picture than the within smart city design, the **location of the site makes it vulnerable to hazards, risks and disasters. It is sensitive to climate.**

Turning it into an urban high-density site, albeit with smart technologies and specific places within the site will not of itself enhance sustainability. It is fact actively undermines it. In fact, the urban shift in land use reduces the scope for resilience and the search for nature-based

solutions to climate change risk and vulnerability. And as we maintain, a **30 metre buffer** in regard to key ecosystem services and resources reduces sustainability in regard of the sustainability of its complex, multi-layered and interacting ecological resources, as well as the integrity and effective functioning of ecosystem services.

There is no discussion of the legislative institutional, regulatory framework. Or discussion of climate change risk and other acknowledged drivers of risk such as dense tourist development on coasts. Nor of the considerable policy level efforts to domesticate Rio Conventions and craft national action plans and targets . Nor of the ongoing efforts at national and local levels to translate national action plans and targets in policies and programmes.

This is a climate sensitive area.

No mention of Local Disaster Risk Reduction and Management Committees at District Council Levels.

No consideration of technological hazards and oil spills.

NO integrated approach to planning.

18 Alternatives

20.1 ‘Do Nothing’ Option

*“The ‘Do Nothing’ option would involve no development on the selected land. However, this option is not justified as the RNSC project is directly in line with the Smart City Scheme regulations 2015 and is located within the Eastern Development Tourism Zone. **The ‘Do Nothing’ option will also affect the economic health of PR CAPITAL, thus not envisaged. Land is under receivership and as such the bank require investment on the land to recoup the funds.**”*

We are astounded to read that PR Capital is putting forward in an Environmental Impact Assessment that if its project does not go ahead its economic health will be affected. In a capitalistic world, PR Capital Ltd should simply fold and go – lest it becomes a parasite of the Mauritian society to the detriment of the tax payers of this country. But in fact, we should not be surprised that the company makes such a statement as it has clearly demonstrated that its project is first and foremost about the private gains it can derive from the project without real consideration for People and Planet. (see also 20.2 of the EIA Report).

The fact that the RNSC proposal falls under the Smart City Scheme regulations 2015 does not automatically qualify it for a Smart City certificate as one of the requirements is to obtain an EIA license. The same applies to its location in the Eastern Development Tourism Zone. The Outline Planning Scheme for Pamplemousses Rivière du Rempart has clear policies regarding projects in the areas under its purview, and we have referred to some of them in our comments on Chapter 2 Regulatory Framework and others. It can also be argued as we already have, that the RNSC proposal is not conformity with the SC Scheme.

That PR Capital has not exercised the level of due diligence including risk assessment that was expected before signing a “compromise de vente” with the current owner of the site, and make a two (2) million Euro deposit with the BPCE Mauritius, should not be used as an argument that is, in our opinion, **at worst tantamount to blackmail and at best a desperate plea to the authorities to bail it out.** It is evident now why the EIA report fails

the test of scrutiny with all the fatal flaws identified.

We strongly oppose what we see as a clear attempt at forcing through private gains which lead to public damage and loss.

Protection of the site, restoration of habitats, protection of ecosystems, removal of alien species can be done without PR Capital's proposal. Indeed, as we have already demonstrated, the Roches Noires Smart City proposal will be, through the deforestation it proposes, **destroying the ecological and economic value of the site and will have far reaching negative impacts for the region as well as the country.**

Do nothing. Note the incentives associated with Smart City Schemes including staff such as syndic. These represent public revenue foregone and financial private gains, which may be redundant i.e the investment would take place anyway without the scheme. Subsidies which are harmful to biodiversity and developing climate resilience over time. Revenue streams are uncertain.

20.2 Alternative Location

This sections holds in two paragraphs:

“The site will be purchased by the Promoter for investment purposes and with the objective of developing a Smart City which incorporates mixed use development.

Based on the extent of the RNSC project site, the surrounding areas, access facilities and existing infrastructure, it is clear that the proposed location of the site is the most viable option for the development of the Smart City project.”

- Though very short, this section demonstrate the true objective of the Promoter: *“investment purposes”* and its total disregard for the sensitivity of the site and its ecological value, as well as the lip-service paid to IFC recommendations.
- There has been no attempt for the Promoters to choose other Sites (alternative) for its proposed development.

Despite its statement about following the IFC's recommendation, it is clear that PR Capital and its Consultants **have only paid lip-service to them by being very selective** and as demonstrated in this document are mere statements to entice the reader into believing that

the Project conforms to these standards.

Or they may not have read carefully enough IFC's Guidance Note 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources²⁸. If they had, they would have seen that **as per IFC's definition, no project such as the one proposed by PR Capital should be envisaged on it.**

We quote extensively but not exhaustively from Guidance Note 6 below (bold and underlined are mostly ours):

*“GN35. Human activity may modify the structure and composition of natural habitats to the degree that nonnative species become dominant and/or the natural ecological functions of the habitat fundamentally change. **At the extreme, this takes the form of urbanized areas.**”*

➤ RNSC is an urbanization of a natural habitat.

“GN36. Clients should endeavor to site the project in modified habitat rather than on natural or critical habitat and demonstrate this effort through a project alternatives analysis conducted during the risks and impacts identification process.”

➤ Neither the Promoter nor their consultants have endeavoured to do so.

“GN38 14 Natural Habitat

Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.

The client will not significantly convert or degrade⁷ natural habitats, unless all of the following are demonstrated:

No other viable alternatives within the region exist for development of the project on modified habitat;

Consultation has established the views of stakeholders, including Affected Communities, with respect to the extent of conversion and degradation; and

²⁸ <https://www.ifc.org/content/dam/ifc/doc/2010/20190627-ifc-ps-guidance-note-6-en.pdf>

Any conversion or degradation is mitigated according to the mitigation hierarchy. (...)”

“15 In areas of natural habitat, mitigation measures will be designed to achieve no net loss⁹ of biodiversity where feasible. (footnote 9 reads thus: ⁹ *No net loss is defined as the point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project’s impacts, to undertake on-site restoration and finally to offset significant residual impacts, if any, on an appropriate geographic scale (e.g., local, landscape-level, national, regional).*

- It is not demonstrated in Chapter 20 Alternatives that there are no other alternative site anywhere in Mauritius.
- Consultations such as those indicated in GN38 and PS1 have not been conducted.

“GN39. (...) If, in the judgement of a competent professional, the habitat still largely contains the principal characteristics and functions of a native ecosystem(s), it should be considered a natural habitat regardless of some degree of degradation and/or the presence of some invasive alien species, secondary forest, human habitation, or other human-induced alteration.(...)”

- **Several competent local and international experts have in their judgement demonstrated that the site – and its wider area – is a natural habitat.**

“GN40. Significant conversion or degradation of natural habitat will not take place unless the client can demonstrate that all three requirements in paragraph 14 of Performance Standard 6 have been undertaken and the company has demonstrated that its proposed activities comply with land-use and licensing regulations. The first requirement is that no viable alternatives exist for that project on modified habitat (within the region). In these cases, a well-developed locations alternative analysis should be conducted to explore potential viable options for development on modified habitat. The term viable includes, but is not limited to, technically and financially feasible alternatives. This analysis will in most cases be in addition to the alternatives analysis included as part of the risks and impacts identification process. It should be a considerably more in-depth analysis than is typically included in an ESIA and should provide specifics on alternatives in the landscape for

developing the project as well as the breakdown of cost increases for developing modified versus natural habitat.”

- **GN40 is highly relevant in the case of the RNSC project.** PR Capital and its consultants have not followed IFC recommendations at all. We remind that PML in its comments on the first EIA suggested that a strategic environmental assessment be conducted as the authorities had not conducted one.

*“GN41. The second bullet point in the standard’s paragraph 14 relates to **stakeholder engagement and consultation**. **If a project has the potential to result in significant conversion or degradation of natural habitats, relevant stakeholder groups must be engaged as part of a rigorous, fair, and balanced multi- stakeholder dialogue.** Client requirements for stakeholder engagement are described in Performance Standard 1, and related guidance can be found in Guidance Note 1. Stakeholders should be engaged specifically with respect to (i) the extent of conversion and degradation; (ii) the alternatives analyses; (iii) biodiversity and ecosystem services values associated with the natural habitat; (iv) options for mitigation, including set-asides and biodiversity offsets; and (v) identification of additional opportunities for biodiversity conservation. Clients must keep a record of such stakeholder engagement and consultation activities and demonstrate how viewpoints have been reviewed and integrated into the project design. Stakeholder participation should provide a diverse set of opinions from knowledgeable sources, including local scientific and technical experts, relevant authorities and agencies responsible for biodiversity conservation or the regulation and management of ecosystem services, and members of national and international conservation organizations, in addition to Affected Communities.”*

- The Promoter and its consultants have **totally and utterly failed with respect to GN41.**

“GN42. The third bullet in the standard’s paragraph 14 reiterates the importance of demonstrating implementation of the mitigation hierarchy. General guidance on the

mitigation hierarchy is provided in paragraph GN16 of this note. However, further guidance is provided here with respect to the implementation of on-site mitigation measures as a means to minimize habitat degradation, which is of particular importance when operating in natural habitats. With respect to on-site mitigation, the types of possible measures are numerous and are often best identified by environmental engineers and erosion control or reinstatement specialists in addition to biodiversity management specialists. **Overall, clients should seek to minimize habitat degradation by adhering to a footprint-minimization principle throughout the project's life cycle.** Habitat degradation is one of the most significant potential direct threats to biodiversity associated with projects involving significant land development. In addition to footprint minimization, the client should implement appropriate ecological restoration strategies, including physical reinstatement, rehabilitation, and revegetation (or restoration) planning and methods, at the earliest possible stage in project planning. The principles guiding these strategies should include (i) protection of topsoil and restoration of vegetation cover as quickly as possible after construction or disturbance, (ii) reestablishment of original habitat to its preconstruction or pre-disturbance conditions, (iii) minimization measures including management controls and workforce education, and, (iv) where native species (especially protected species) cannot be retained in situ, consideration of conservation techniques such as translocation and relocation following established IUCN guidelines.^{GN7}

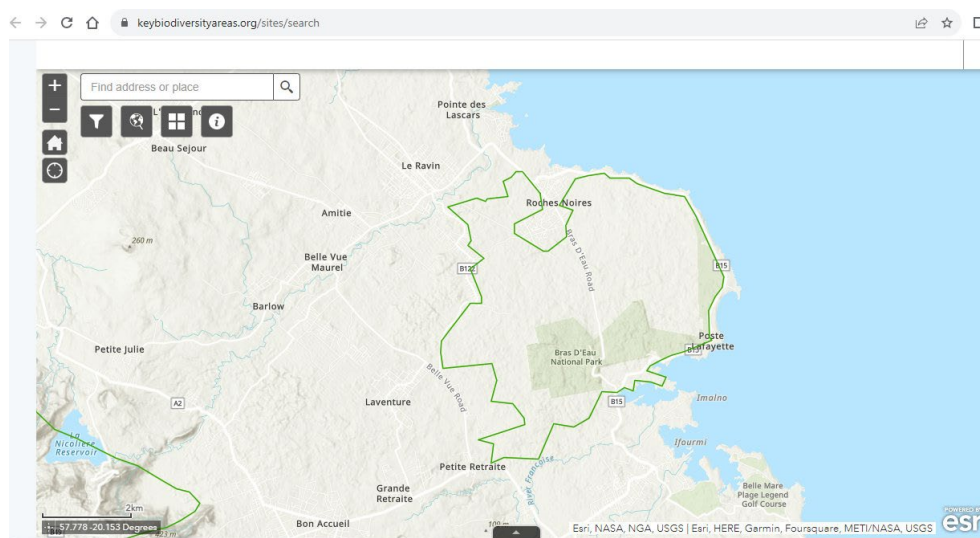
- There has been **no footprint minimization** as has been demonstrated in our comments on Geotechnical Investigations.

GN54. Projects that are located within internationally and/or nationally recognized areas of high biodiversity value **may require a critical habitat assessment**. Examples include the following:

- Areas that meet the criteria of the IUCN's Protected Area Categories Ia, Ib and II.^{GN9}
- **Key Biodiversity Areas (KBAs),^{GN10} which encompass Important Bird and Biodiversity Areas (IBAs).**

- Mauritius has 17 KBAs and one of them is the Plaine des Roches- Bras d'Eau area that includes the site.²⁹ See map below.

The members of the Key Biodiversity Area Partnership are: American Bird Conservancy, Amphibian Survival Alliance, BirdLife International, Conservation International, Critical Ecosystems Partnership Fund, Global Environment Facility, **International Union for the Conservation of Nature**, NatureServe, Rainforest Trust, Re:wild, Royal Society for the Protection of Birds, Wildlife Conservation Society, World Wildlife Fund.



Key Biodiversity Areas.org <https://www.keybiodiversityareas.org/sites/search>

*“GN58. Relatively broad landscape and seascape units might qualify as critical habitat. The scale of the critical habitat assessment depends on the biodiversity attributes particular to the habitat in question and the ecological patterns and processes required to maintain them. Even within a single site designated as critical habitat there might be areas or features of higher or lower biodiversity value. **There also will be cases where a project is sited within a greater area recognized as critical habitat, but the project site itself has been highly modified. A critical habitat assessment therefore must not focus solely on the project site. The client should be prepared to conduct desktop assessments, consult with experts and other relevant stakeholders to obtain an understanding of the relative importance or uniqueness of the site with respect to the regional and even the global scale, and/or conduct***

²⁹ <https://www.keybiodiversityareas.org/site/factsheet/6652>

field surveys beyond the boundaries of the project site. These considerations would form part of the landscape/seascape analyses as referred to in paragraph 6 of Performance Standard 6 and in paragraph GN17 of this note.”

- None of the above has taken place.

20.3 Alternative Layout

As has already been abundantly demonstrated in Chapter 10 – Geotechnical Assessment and in 20.2 above, no alternative layout has been considered when environmental constraints were identified. Indeed, engineering solutions that were not analysed with regards to their environmental and ecological impacts were prioritised over a modification of the layout:

*“Cavities if encountered during the construction shall be delimited (extend) and bridge using ground beams or floor slabs. Relocation of structures may also be recommended **if allowed by the project layout.**”* – Chapter 10 Geotechnical Assessment.

This is further evidenced by the fact that there is no perceptible change in the 2022 master plan and the 2023 one.





20.4 Alternative Project

As has already been abundantly demonstrated throughout our document, this Site cannot be urbanized.

It is unclear why the following sentence was included in this section as there is no link with the preceding paragraphs: *“As a result, an alternate project on property beyond the smart city's boundaries is not considered viable.”*

Nevertheless, the EIA Report contains no information as to whether an **alternative location** for the smart city project was investigated. This, as we have demonstrated in 20.2 above, goes against IFC recommendations for a site such as the one identified by PR Capital in Roches Noires for a smart city.

19 Public Participation and Consultation

In their SIA report, the Consultant Alternet Research and Consulting Ltd state that *“IFC PS 1 requires disclosure of information on the purpose, nature, scale of the project, duration of activities, risks and impacts on communities, the envisaged stakeholder engagement process and grievance mechanism.”*

No reference is however made to GN41 of PS1, which highlights once more their **highly selective use of IFC Performance Standards**: Guidance Note 1 Assessment and Management of Environmental and Social Risks and Impacts³⁰ which applies to the RNSC project (see our comments to Chapter 8 and other chapters for further discussion on the subject):

*“GN41. The second bullet point in the standard’s paragraph 14 relates to **stakeholder engagement and consultation**. **If a project has the potential to result in significant conversion or degradation of natural habitats, relevant stakeholder groups must be engaged as part of a rigorous, fair, and balanced multi- stakeholder dialogue**. Client requirements for stakeholder engagement **are described in Performance Standard 1, and related guidance can be found in Guidance Note 1**. Stakeholders should be engaged specifically with respect to (i) the extent of conversion and degradation; (ii) the alternatives analyses; (iii) biodiversity and ecosystem services values associated with the natural habitat; (iv) options for mitigation, including set-asides and biodiversity offsets; and (v) identification of additional opportunities for biodiversity conservation. **Clients must keep a record of such stakeholder engagement and consultation activities and demonstrate how viewpoints have been reviewed and integrated into the project design**. Stakeholder participation should provide a diverse set of opinions from knowledgeable sources, including local scientific and technical experts, relevant authorities and agencies responsible for biodiversity conservation or the regulation and management of ecosystem services, and members of national and international conservation organizations, in addition to Affected*

³⁰ <https://www.ifc.org/content/dam/ifc/doc/2021/20210614-ifc-ps-guidance-note-1-en.pdf>

Communities.”

- The Promoter and its consultants have **totally and utterly failed with respect to GN41.**
- There has been no *rigorous, fair, and balanced multi- stakeholder dialogue*.
- The records of stakeholder engagement and consultation activities are **incomplete**, they **do not demonstrate how viewpoints have been reviewed and integrated into the project design**, and they are selective to the point of making **misrepresentations**.

- **Incomplete** (no minutes of meeting were circulated to attendees for comments and approval prior to publication in the SIA report) but public presentations have been labelled public consultations in the EIA report (page 267):

*“Two additional **public presentations** were conducted on 24 April 2023 and 30 May 2023. Additional details regarding the **public consultation meeting**, is included in the SIA.”*

It is surprising to note how an EIA Report that claims having followed IFS Recommendations can use the terminology for two different processes interchangeably for the same process.

- **No integration of views into the project design.**

Indeed, information about mitigating measures given to stakeholders in public presentations and/or focus groups in an attempt to alleviate their concerns regarding the RNSC project are not included in the project design. Two notable examples are desalination to provide potable water and buffer zones around wetland areas.

SIA “9.2. Fears and concerns - Environmental issues

“The Master plan prepared by the promoter has given due consideration to environmental issues and many of the concerns formulated by the villagers have been given due consideration. Table below list the environmental issues raised and the solutions proposed by the promoter.

Inhabitants highly value the natural environment in the area and they are attached to the preservation of the natural environment. They expect the Smart City project to prioritise environmentally sustainable practices and measures to ensure that potential impacts on the natural environment are effectively managed. Residents are attached to their village and value their present experience in the village particularly for the quality of its environment.

The strong attachment respondents feel towards their village emphasises their wish of preserving the unique character and cultural heritage of Roches-Noires while integrating new developments and opportunities. The Master plan prepared by the promoter has given due consideration to environmental issues and many of the concerns formulated by the villagers have been given due consideration. Table below lists the environmental issues raised and the solutions proposed by the promoter.”

SOCIAL IMPACT ASSESSMENT - ROCHES-NOIRES SMART CITY		
Water Supply	Possible water stress	The Smart city's water supply plan involves the use of boreholes for consumption, with surplus water channelled to the CWA network. Treated effluents are used for irrigation, and other options like desalination will also be considered.

SIA 11.7. Water security issues

Addressing potable water needs, the report anticipates that the smart city will require supplementary water sources in addition to the extension of the existing Central Water Authority (CWA) network. To meet this demand, the report recommends exploring alternative water sources such as drilling new boreholes and implementing desalination plants. To that effect, experts at the service of the promoter have identified boreholes outside the village. It is proposed to exploit same and provide the additional volume of water obtained placed on the CWA network to be related to the project site and the village.

- However, in the same SIA, it is reported that in a reply regarding desalination, the representative of the Promoter stated that the Promoters were negotiating with the EDB so as not to have a desalination plant in the smart city.

SOCIAL IMPACT ASSESSMENT - ROCHES-NOIRES SMART CITY

Question 7:

Parlez-nous plutôt du dessalement ?

Réponse Nicolas de Chalain :

C'est la loi de Maurice, qui veut que pour tout projet immobilier comprenant plus de 50 chambres, il faut mettre en place un système de dessalement d'eau de mer pour approvisionner les locataires. Nous essayons de négocier avec l'EDB pour ne pas avoir à développer ce système dans la Smart City. Cependant, nous avons dû répondre aux exigences des autorités en faisant des études de faisabilité sur ce procédé.

▪ Buffer zones

SIA "11.5. Impact on the environment

One of the major concerns raised by stakeholders is the impact of the development project on the environment."

The EIA document emphasizes that construction work will be strictly prohibited within the buffer limits of the swamps and the barachois. Construction is avoided on the prescribed 30m buffer from the ESAs, where a voluntary buffer of up to 100 metres has been established around the wetlands to protect these sensitive ecosystems. In order to further conserve and restore these vital areas, the project will implement a wetland conservation project/site restoration management plan. This plan will include safeguarding wetlands and exotic vegetation, restoring the buffer zone, controlling invasive plant species, and replacing them with native plants to protect local wildlife habitats. The plan will also entail regular monitoring and evaluation of the wetland ecosystem health to ensure the conservation efforts are effective and adaptive.

SIA 9.2. Fears and concerns - Environmental issues

The Master plan prepared by the promoter has given due consideration to environmental issues and many of the concerns formulated by the villagers have been given due consideration. Table below list the environmental issues raised and the solutions proposed by the promoter.

Category	Issue raised	Response
	Possible destruction of wetlands by the developer	No construction within the prescribed buffer zone of 30m. None of the wetlands of Roches Noires are on the list of the RAMSAR Committee. Additionally, a voluntary buffer of 100m is being observed by the developer.

Throughout the EIA Report however, no mention is made of a 100m voluntary buffer zone

around wetlands/wetland areas. Below is what is stated in Chapter 17 Socio Economic and Socio Cultural Impacts:

17.2.2.3 Environment

The Smart City project will prioritise environmentally sustainable practices and measures to ensure that potential impacts on the natural environment are effectively managed. The Master plan prepared by the promoter has given due consideration to environmental issues and many of the concerns formulated by the villagers.

No construction will occur within the prescribed buffer zone of 30m around the wetland areas.

282462/EIA/VM/01 | Draft | 31 August 2023 ENV-ESDD-EIA-2023-40 - Thu Aug 31 16:38:44 MUT 2023 - vanessa.n...@p.com - 15
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HTTPS://ARUP.SHAREPOINT.COM/TEAMS/PRU-282462/DATA AND DOCUMENTS LIBRARY/5.1 - REPORTS/EIA/EIA FULL SMART CITY/282462-00 ROCHES NOIRE SMART CITY EIA_EDB SUBMISSION DOCK

▪ Misrepresentations in the stakeholder engagement part of the SIA

Several misrepresentations are noted.

Only two are mentioned here for illustration purposes, one about forest, which is not only incomplete but where the most surprising reply is given, and one about Platform Moris Lanvironnman (PML).

Question 3 :

Vous avez mentionné que vous ne toucherez pas aux zones sensibles, mais la forêt n'est-elle donc pas une zone sensible pour vous ?

Est-ce que vous avez prévu une compensation ici pour les forêts comme en France ?

Réponse : Nicolas de Chalain

Nous nous sommes associés avec divers experts et consultants qui ont conclu que cet espace n'est plus une forêt.

Page 93 of the SIA Report

Forest: Surprisingly the identity and occupation of the member of the public putting the question is omitted despite her having clearly stated same in the microphone provided: Fanny Vellin, avocate au Barreau de Paris.

The excerpt quoted above is only the end of her most relevant observation about the Site and the project: You, the Promoter, are saying that in France you rehabilitate brownfields (“des friches industrielles”) but this site in Roches Noires is not a “friche”, it is a forest, she said in

substance.

Platform Moris Lanvironnman: In the Introduction to the Social Impact Assessment 7.2, the EIA report states:

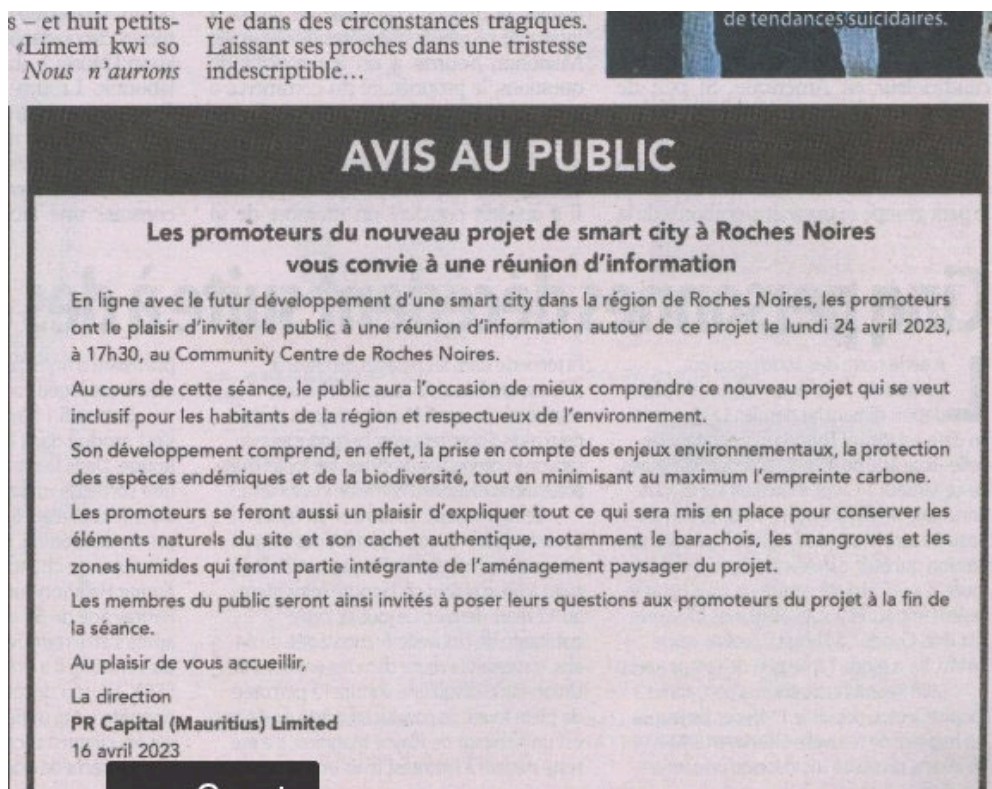
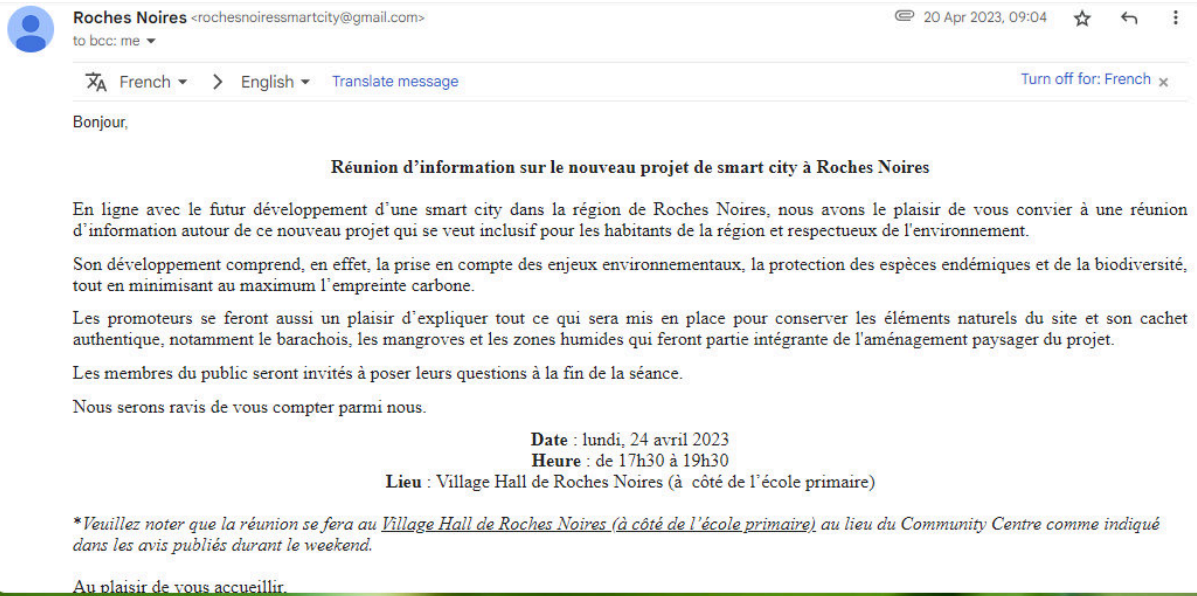
“Similarly, no responses were received from Platform Moris Lanvironnman (PML) nor from two experts in environment and biodiversity.”

However, the SIA Report dated May 2023 itself states (page 32 of the SIA):

“Platform Moris Lanvironnman (PML), an informal network of NGOs and citizens is actively engaged in promoting sustainability in Mauritius. Its members have, in the past, criticised the RNSC project and filed their opposition to the development. Mrs Adi Teelock the spokesperson of PML was contacted for an interview and responded that she would revert after discussing the matter with her fellow members. Mrs Teelock afterwards made it known that PML would be agreeable to participate in a meeting where all stakeholders are present Subsequently a public consultation was organised on Monday 24 April 2023 at Rivière-du-Rempart Village Hall It was attended by representatives of PML, Protégeons l'écosystème de Roches-Noires, residents of the coastline bungalows and other villagers.”

It must be noted that following an article in l'express newspaper dated 30 May 2023 stating what is written in 7.2 of the August 2023 EIA Report, PML and Protégeons l'Ecosystème de Roches Noires (PERN) sent a mise au point to the newspaper that seems to have motivated a modified version of the exchange between PML and Jérôme Boule, the director of Alternet Research & Consulting, in the SIA Report. The joint PML/PERN communiqué, invitation email to PML and press notice by PR Capital informing of a public presentation/meeting are included below for the benefit of readers.

We were unaware that IFC Performance Standards allow such misrepresentations to be made in an SIA and an EIA Report.



Clarifications suite à un article de l'express du 30 mai 2023

La Plateforme Protégeons l'écosystème de Roches Noires (PERN) souhaite apporter les clarifications suivantes :

- **PERN est une plateforme citoyenne.**

Nous aspirons à un développement responsable et durable pour notre île et souhaitons donc protéger l'écosystème de Roches Noires. Nous ne sommes en aucun cas « *an association of coastline bungalows residents* » comme décrit dans l'express.

- Nos membres ont été présents aux rencontres organisées par les Forces Vives et le Conseil de Village en avril et mai, nous sommes ouverts au dialogue et allons poursuivre les discussions sur ce sujet crucial.

- Nous avons appris dans la presse que le cabinet *Alternet Research & Consulting* avait finalisé son étude d'impact social en mars et que nous avions apparemment refusé d'y participer. Cette information est inexacte.

- Mme J.R., membre de PERN, a été contactée par Monsieur Jérôme Boule le 21 mars. Monsieur Boule lui a demandé d'organiser une réunion publique.

La réponse de Mme J.R. a été claire. « *Ce n'est pas mon rôle d'organiser une telle réunion dans le cadre de votre Social Impact Assessment (SIA). En revanche, nous sommes ouverts à vous rencontrer avec tous les membres de la plateforme, ainsi que les autres ONG pour discuter tous ensemble.* »

Elle précise : « *J'ai suggéré un endroit à Roches Noires pour cette rencontre et Monsieur Boule devait revenir vers moi avec une date. Nous attendons toujours.* »

- **Platform Moris Larvironnman (PML) souhaite apporter la clarification suivante :**

- Adi Teelock a été contactée le 24 mars par Jérôme Boule pour « *un entretien* ».

- Le 1^{er} avril, après consultation avec les membres de PML, elle a répondu ceci :

« *PML plito an faver enn konsiltasion groupe avek tou bann ONG/plat-form ki finn avoy komantr a 1e EIA plis lezot stakeholders evantiel. Pou nou se koumsa ki bizin prosede, e pa an individiel. Fer nou kone si zame ena enn renion koumsa. Merci.* »

- **Commentaire commun de PML et PERN**

- Nous sommes très étonnés que la presse soit en possession du rapport SIA, alors que ce document n'est pas encore accessible au public.

- Nous rappelons que, le SIA est un élément du *Environmental Impact Assessment* (EIA) que le promoteur de la Smart City Roches Noires n'a à ce jour toujours pas soumis au ministère de l'Environnement.

- Le SIA, auquel la presse fait référence, aurait été soumis en mars. N'étant pas en présence du document, il nous est impossible de vérifier cet élément. Nous tenons toutefois à rappeler que PML ainsi que PERN, n'ont été contactées que fin mars par Monsieur Jérôme Boule. Le responsable de *Alternet Research & Consulting* aurait-il attendu la dernière semaine pour nous contacter ? Le timing suscite des interrogations.

Maurice, le 31 mai 2023

List of Appendices

Expert Analysis

- 1. Gregory Middleton**
- 2. Julian Pender Hume**
- 3. Prem Saddul**
- 4. Christine Griffiths**
- 5. Pierre Baissac**

APPENDIX - EXPERT ANALYSIS RNSC

Gregory Middleton

I BSc (University of Sydney), Grad. Dip. Environmental Studies (Univ. of Tasmania), Master of Applied Science (Karst Management) (Charles Sturt University).

Personal communication to PERN

Thank you for the opportunity to be involved in this issue.

I know this area quite well, having wandered all over the Plaine des Roches and around Roches Noire looking for lava caves.

The one cave I know of, at the back of the barachois (not far from the old lime kilns referred to on p. 54 of the EIA document), is normally filled with water. In fact it is an outflow cave or rising. It is at the head of the unusually straight channel (I presume a collapsed pyroduct or lava cave) shown on Figure 7, p. 33 of the Drainage Impact Assessment report, immediately south of where the red line marked 'MD5' enters the barachois. I suspect the straight line of 4 flooded depressions running SW of the rising are also collapsed cave features.

All of this highlights the very low-lying nature of the whole site – under '4.2 Topography' on p. 49 it is stated that the highest point above mean sea level is just 20 metres; the lowest, at the barachois, is reported to be 2 m. On p. 3 of the Drainage Impact Assessment these figures are stated to be 25 m and 1 m respectively.

Given this, I would have thought that designing the stormwater drains on the basis of 25-year peak flows is at least highly questionable.

Given that climate change is certain to generate rainfalls and floods greater than we have previously experienced at increasing frequencies, I would have thought the whole project is hopelessly ill-conceived.

I don't think climate change is mentioned in the Drainage Impact Assessment, despite the fact that on p. 204 of the EIA under 'Climate Change Assessment' it is acknowledged that already in Mauritius "weather-related events were the most common type of disaster, with cyclones, torrential rainfall and flooding the most common among these types of events."

Compounded by sea-level rise over the next century, flooding is likely to be a major hazard for any developments within a few metres of current mean sea level. The developers response to this is given on p. 206 – "since cyclonic events have the potential to induce coastal flooding during episodes of compounded high surge levels, high tides and waves, no buildings have been allowed to be constructed along the northern boundary in areas less than 3 m above mean sea level. This will ensure that the project is capable of coping with such events." At best I believe this can only be described as short-term wishful thinking.

I wish you well in combatting this proposal. The developers have gone to a lot of trouble to present this proposal as though it were well thought-out and carefully planned but I think there are many glib phrases in the EIA and subsidiary documents, especially concerning environmental impacts which are ill-founded and hopelessly optimistic but sound reassuring. The project would be a disaster for most of the natural values of the area.

Regards,
Greg Middleton

October 20, 2023

APPENDIX - EXPERT ANALYSIS RNSC ON FOSSIL ASPECT OF THE REGION

Dr. Julian P Hume

BSc (hons); PhD (Vertebrate palaeontology of the Mascarenes)

Research Associate. Life Sciences, Natural History Museum, London. UK.

Personal communication to PERN and PML

I have nothing to add to Greg's excellent summary other than the **fossil aspect of the region**.

Greg and I have done a fair bit of work in the caves and have found remains of many of the **extinct animals that once occurred in the area**. Therefore, **the Roches Noires caves are extremely important for fossil preservation and revealing the former diversity of the island**. This is especially relevant to now-extinct birds, recently discovered birds, and birds that have yet to be described (see my included papers), as well as the original environment.

The caves and surrounding areas should be protected as a major part of Mauritian heritage, as well as being a surviving remnant of lowland forest, and are also aesthetically important in an island that is rapidly being turned over to development.

Emphasis should also be placed on future research, such as the collection of pollen cores, as done at the Mare aux Songes and Mare La Chaux fossil sites, which have helped **determine the former vegetation within the region**. It would also provide data for a floral comparison of surviving forests with those that occurred in the past.

Also, the caves provide important clues about the history of the island, which would **otherwise never be known**, and as science progresses with new techniques, and will continue to do so for generations to come, it could have important implications in this age of climate change and global warming.

Julian Hume

References

- A synopsis of the pre-human avifauna of the Mascarene Islands by JULIAN P. HUME. Paleornithological Research 2013 Inter nat. Meeting Society of Avian Paleontology and Evolution
- A new subfossil ground thrush (Turdidae: Geokichla) from Mauritius, Mascarene Islands by Hume, Julian P., Bulletin of the British Ornithologists' Club, 142(4) : 388-403
- HUME, J.P. 2005. Contrasting taphofacies in ocean island settings: the fossil record of Mascarene vertebrates. In ALCOVER, J.A. & BOVER, P. (eds.): *Proceedings of the*

International Symposium "Insular Vertebrate Evolution: the Palaeontological Approach". Monografies de la Societat d'Història Natural de les Balears, 12: 129-144.

APPENDIX - EXPERT ANALYSIS RNSC

Prem Saddul

Associate Professor & Consultant in Environmental Issues and in Hydrogeology

The Roches Noires Smart City project proposal: A critical analysis

First of all I would like to exchange a few thoughts on the misconception of "SMART CITIES". Many promoters, especially foreign nationals, try to lure Mauritian authorities by using erroneously this concept, which they themselves do not know well. We see "smart cities" emerging everywhere on our island and in the process affecting negatively our fresh water resources, carbon and other ecological footprints. I have lived a few days in the smart city of Busan in South Korea..a true smart city. For me, a smart city must be a "rain city" where every drop of rain is caught and stored for multiple use and not a "drain city" of asphalt, cement and paved roads which tend to trigger flash floods. A "smart city" must also be a "green city" producing more than 60 % of its domestic electricity use from green renewables and managing wastes in a sustainable manner. There are other parameters that are associated with this concept.

The 850 arpents Roches Noires "Smart City" project proposal.

This is a project proposal which will involve heavy engineering works impacting negatively, with irreversible results, on an environment with a high Sensitivity Index (S.I) and high Vulnerability Index (V.I). For any request for development, especially near the coast, Government must analyse the S.I and the V.I as a "Decision Support System". This is now the method used in almost all S.I.D.S (Small Island Developing State).

A lot has already been written on the rich and diverse geological, hydrological and ecological capital of the Upper Plaine des Roches- Roches Noires- Bras D'Eau region. As a geologist, I have visited and studied every meter of the region, which has been fashioned by the latest lava flows from the Bar le Duc, L'Escalier and Mon Piton volcanoes. The assortment of wetlands, lava tunnels, lava galleries, rat holes, tumuli and fresh lava ripples exist in perfect harmony undisturbed by man. Any human intervention will disrupt the formula and the equilibrium.



Lava tunnels in this geologically young region



Ropy lava ripples seen at Plaine Des Roches

In this geologically 20,000 years old region has, over the years, developed a flora and fauna as well as landforms which must be declared a nature reserve and preserved for future generations. Uprooting the native endemic plants within the proposed " smart city" site and planting them in another environment so as to preserve them is a sheer laughable idiocy. It is just like high jacking children from their parents and family and sending them live in an alien environment.

The lagoon between Pointe Roches Noires and Pointe Lafayette is very narrow and the coral reefs are located only 250 meters from the coastline. Roches Noires is a sub set of the larger Plaine Des Roches hydrogeological system. This is why we come across lava tunnels, caves and galleries which are habitats for cave swiftlets (hirondelles) which are endemic to Mauritius.

A close study of several transects (core logs) in the region shows the high permeability of the surface basalt and the presence of underground valleys which feed the coastal basins of Mare Sarcelles and others as well as Bras D'Eau which is 3 km away. It is mentioned that two golf courses will be built within the radius of the 850 arpents. Roches Noire is a rocky area with

high infiltration rate. A golf course has an incredible thirst for water needing on average 5000 M3 of water per day and upon which several tons of biocides and fertilisers are applied. Over and above, several thousands of tons of native rocks need to be displaced to make way for alien grass. All the leachates will eventually reach the narrow lagoon with a high eutrophication effect on the lagoon ecosystem.



Bras D'Eau fresh water pool and the public beach

I was a member of the Environment Appeal Tribunal in the past and all similar project proposals were rejected with a view to maintaining our natural capital. We must watch out and prevent multinationals from coming over, milch our cows and go away with murder.

Prem Saddul

APPENDIX - EXPERT ANALYSIS ECOLOGICAL SURVEY RNSC

Dr. Christine Griffiths

PhD in Biological Sciences, specializing in restoration ecology

- Working in Mauritius since 2004 on conservation and restoration projects.
- Involved in multiple restoration projects while at Ebony Forest (2012-present) and with the Mauritian Wildlife Foundation.

Personal communication to PERN and PML

Chapter 8 - Ecological Survey

- Dates of survey and person hours surveying should be provided. **Given the extent of the area and issues of accessibility, it is hard to believe that only 1 month was taken to do the survey.**
- **A full habitat survey could not be conducted due to difficulties in access! How then are there very detailed delineations of zones in figure 81, which strongly corresponds to existing set out locations? Or are these tracks? Use of satellite maps and drones are very effective at assisting in vegetation surveys, which can then be backed up by ground-truthing.**
- **The report should include the line transects done to indicate what areas were and were not surveyed.** They should have been plotted on a map, as well as the provision of legible gps points. In fact, the methodology used is unclear. By plotting the points/transects, it allows people to evaluate what areas were and were not surveyed. In the report, there should also be some indication of the area that can be observed from a point, bearing in mind this will be highly variable in relation to the vegetation.
- **Given the extent of the area and habitat heterogeneity, there should be significantly more than 7 zones. A clear definition of each habitat type/zone should be provided. Another concern is that estimating grades on % cover, when a large part of the site may not have been surveyed is very arbitrary, especially as surveying was not random but determined by accessibility.**
- **The location of the endemics should be provided as gps points, especially the hardwood trees such as Diospyros, Protium, Cassine, etc. Were these pockets of native vegetation found in more accessible areas and hence it cannot be ruled out that natives of critical importance and in abundance do not occur elsewhere.**
- **Lowland coastal forest on the mainland is rare and so despite being only of small extent, this site is very important at all levels of biodiversity (species, genetics, ecosystem). Furthermore, the recreation of such forest in this area would be relatively easy. Many areas**

that we restore are highly degraded, with few natives, but it is about decreasing fragmentation and the existence of isolated endemics, especially many of which are rare, indicates the importance of increasing native cover.

- The report includes only a list of species presence. More details on cover, height etc. are needed. A forest is not simply a collection of trees, but they should provide more detail on the horizontal and vertical structure, as well as diversity (beyond simply species richness). The survey looked only at adult trees and not seedling or saplings. There is no reference to whether regeneration is occurring.

- Zone D should not be given the same importance as say zone E due to the difference in importance of a common native grass versus a slow growing rare endemic.

- The "20 ha." allocated for the endemic conservation area has high edge effect and hence its value is significantly less than 20 ha., especially as it is broken into two blocks. As these conservation areas are open to the public, the level of disturbance and fragmentation increases. Their value to biodiversity is thereby limited relative to the current situation.

- There is no consideration as to how the development will impact the biodiversity in terms of light pollution. There is extensive evidence worldwide that light pollution significantly effects biodiversity from invertebrates, reptiles, birds, mammals etc. Noise pollution, while mentioned, is mainly referred to during the development stage and not considered post development.

- Natural Capital Assessment – section 8.4 - With an increase in human habitation, there will be an increase in fauna predators – cats, rats, dogs, Madagascar day gecko etc., which will have a significant impact on the reptile and bird communities. Any assumed "improvement" in habitat will be counteracted by predation and noise/light pollution.

- *"Some areas of the development will be cleared to allow for construction works, however for each tree cut, 3 trees will be replanted". This all depends what you define as a tree! Are this only native trees or exotic as well. Plus, need to consider a forest and its structural heterogeneity – ground flora, understory etc. It is not just the canopy tree that is removed!*

- Nutrient cycling – this is erroneous. By clearing the forest cover and top soil, upsetting the soil micro- and macro-fauna, compacting the soil, will have huge impact. Gardening practices in Mauritius involve the removal of leaves and hence reducing the biomass for nutrient cycling. Much of the area will be golf course, which has limited nutrient cycling.

- Roches Noires is clearly composed of many different habitat types besides the mangrove/wetland/forest classifications. All the transitional zones, which are ideal for different successional species will be lost. The 20 ha. is only focused on creating a late

successional forest. Habitats such as old lava flows, caves, etc. are also important and their contribution to habitat heterogeneity.

· Given the Zoning highlights and the reference to important and threatened native flora, I find the following sentence in the report conclusion contradictory - *"The development and the transformation of the existing environment will have no impact on the flora community, which is of high density of alien exotic species been introduced, and most of the plants are classified as highly invasive species."* Not to mention, that we know habitat, even native habitat, becomes degraded when in close proximity to human habitation due to direct or indirect human disturbance.

Fauna

· There is no methodology presented of how the fauna surveys were conducted. I suspect they were opportunistic. No survey was hence done. A survey must be replicable, consistent and respect criteria to ensure reliable data is collected. I suspect the same was done for the 'plant survey'. Again, only presence was noted. There is **no indication of abundance**. These could be the most densely occurring populations for all native fauna, but we cannot determine this from the report. To **reliably assess fauna communities**, it is best if **surveys** are done in both the dry and wet season or breeding and non-breeding season of suspected species. Species presence and distribution within a site are fluid and change according to requirements, abiotic factors and species mobility.

· Based on the "wetland and fauna tables" on page 286 of the pdf, it is not clear if only these easily accessible areas were surveyed. Again, there should be an indication of the dates, time, the level of effort and how the survey was done – point counts for xx time, transects! The weather and time strongly impacts sightings of fauna and so all this information is needed.

· The high occurrence of *Phelsuma* on the rocky habitats is likely due to the species being easier to spot in this area and not an indication of it being a more favoured habitat. Hence the conclusion that the rocky habitat must be protected for the reptile community, excluding the importance of the native trees, is flawed. There are many published studies indicating the importance of native vegetation for the endemic *Phelsuma* species. The Roches Noires area is likely to be an important location for *Phelsuma guimbeaui* (Lowland forest day gecko), an Endangered gecko. The species may be locally extinct, or it may not have been detected as it occurs in low numbers and a 'survey' was not done.

Mitigation approaches

I had to relook at the document to see the mitigation approaches proposed in reference to the removal of the vegetation as it was not clear.

- I am curious as to how they can protect the native species and uphold their promises when they do not know where the native plants are or how many? And, I mean plants, not just trees!
- As the proponents are proposing to plant 3 trees for every tree removed, this must include all species defined as trees, and not be based on height as these plants have the potential to grow into trees. How are they defining a tree? Furthermore, this approach overlooks the importance of non-tree species.
- This project will indeed have a major impact on the hydrology and lagoons as surface run off, infiltration regimes will change. Despite golf courses being green they should not be considered as part of the ecosystem as they have extremely low biodiversity value, if any, and will significantly modify the drainage.
- Unlike many countries, where patches of vegetation can be connected by corridors and help mediate habitat fragmentation, this doesn't really work in Mauritius. Most bird species, albeit not to my knowledge the ones at the site, require solid areas of forest and are poor dispersers.

I am sure that this is not needed, but the conclusion that the development will benefit the biodiversity of the area is rubbish. It may look more aesthetically pleasing, but will under no circumstances benefit biodiversity in terms of species, genetic or ecosystem diversity.

Dr Christine Griffiths

27.10.2023



*Consultant Ecologist
Advisor in Ecological Resilience*

Preliminary comments on the proposed development masterplan

Roches Noires project

Pierre de Boucherville Baissac

8 Novembre 2023

General Site Description

Having been commissioned as the ecologist for EIA purposes I undertook in 2005 and 2006 the Survey of the Vegetation and It's Associated Fauna of the Roches Noires Development IRS Site, a 342-hectare portion of land. The report, dated June 2006, was submitted alongside the EIA report in 2007.

The objectives of the study were to identify and describe vegetation and native ecological zones, identify endemic, native and alien vegetation of botanical and ecological interest and prepare recommendations for the protection and conservation of the flora during and after the development of the project.

The study revealed that large portions of the site had either been planted with Eucalyptus and Tecoma forests, or had become highly degraded and invaded with alien vegetation. Nevertheless, important remnants of indigenous coastal vegetation, which was once abundant in Plaines des Roches, were still present.

A great diversity of plant species was recorded. Of the 92 plant species recorded, 43 were identified as native. Of these 15 species were endemic to Mauritius, 20 were indigenous to Mauritius, and 8 species endemic to the Mascarenes. Of the 15 Mauritian endemics 3 were rated as Critically Endangered, 3 rated as Endangered, and 7 as Vulnerable. It was felt that further studies beyond the scope of the present study could reveal additional indigenous species.

Nine main types of plant communities or ecological zones were identified, described as follows (referenced in annexed vegetation plan).

1. **Mangrove community** around the barachois populated by a dense and healthy mangrove community of which the main species is *Rhizophora mucronata*. 20 to 30 trees of the rarer *Bruguiera gymnorhiza* are also present.
2. **Highly degraded community dominated by Cassie de Manille**
This zone surrounds most of the Barachois and is essentially dominated by alien, invasive vegetation amongst which are some native plants. Twenty-two native plant species were, however, recorded in this zone.
Four or five fresh water ponds are found in this zone.
3. **Eucalyptus rich community**
This zone is an abandoned Eucalyptus plantation. Though it is a highly degraded habitat dominated by many alien plant species, seven native plants were recorded. Of particular significance was the presence of five or six trees of the critically endangered indigenous Bois de Fer (*Sideroxylon boutonianum*).
4. **Cassie de Manille and Poivre Marron mixed community**
This is a small area in the far western end of the site. It is overgrown by the invasive alien plants Poivre Marron (*S. terebinthifolius*) and Cassie de Manille (*P. dulce*). There were no native plants present.
5. **Tecoma (*Tabebuia pallida*) rich community**
Most of the tecoma areas on the site are densely vegetated, generally excluding all other forms of vegetation. There is, however, in the north western sector of this block a pocket of native vegetation where 22 native plant species were recorded of which about 20 Ebony (*Diospyros melanida*) trees could be found.
6. **Degraded semi-shrub (low shrub and trees mix) with some native vegetation.**
This zone is located in the South West corner of the site consisting of trees and shrub. The vegetation is dominated by alien species but has a large number of indigenous plants of which 25 species were recorded, three of which are critically endangered.
7. **Semi degraded low shrub rich in native vegetation.**
This area of low shrub, though invaded with alien vegetation, is the richest in native vegetation represented by 29 species. It is particularly important because of the presence of three critically endangered species, Bois de boeuf (*Gastonia mauritiana*), Bois de clou (*E. sieberi*), and the Bois de fer

(*Sideroxylon boutonianum*). The large numbers of Bois d'Olive (*Cassine orientalis*), at least 100 trees, is also of importance. It is the most representative remnant of the coastal ecosystem that once occupied the Plaine des Roches area.

8. High degraded low shrub dominated by Cassie de Manille and Prune with some native vegetation.

This zone, in the far eastern triangle of the site is very densely vegetated with 1-3m tall low shrub dominated by invasive alien vegetation amongst which 24 indigenous species of which two critically endangered were recorded.

9. This zone consisted of different ecosystem types:

- a. **Grass dominated** mainly of *Stenotaphron dimidiatum*, *Sporobulus virginicus*, *Cynodon dactylon*, with some *Paspalum vaginatum*.
- b. **Ponds/wetlands** populated with "Voune" *Typha domingensis* which serves as habitat for the Common Moorhen or "Poule d'eau" *Galinula chloropus* and the "Fougère la Mare" *Acrostichum aureum*.
- c. **Mixed alien shrub** consisting of Dense patches of alien vegetation, particularly in the central and western portion towards the barachois.
- d. **Mixed indigenous vegetation.** The southern boundary of this zone meets with the rocky formations. Scattered around this boundary area are a number of indigenous plants of which 17 species were recorded.

The EIA permit required that, as recommended in the EIA report, I be recruited as consultant ecologist for the project with special responsibility for the identification, restoration and conservation of all areas with native vegetation. I started work in 2007 with a team of 15 men, clearing indigenous zones, identifying and demarcating new ones. As work proceeded on the site new indigenous species were found, bringing the total recorded native vegetation to 53 species. The work, unfortunately had to stop in 2009 due to the world's financial crisis.

Importance of the Roches Noires coastal forest

Up till the rediscovery of the native forest ecosystem at Roches Noires it was believed that the coastal forest that once covered most of the coastal areas of Mauritius had entirely disappeared from the mainland, barring a few relic and impoverished patches.

Little is known about the original composition of this coastal forest except that, from the accounts of the early settlers, it appears that palms and ebonies were a major constituent of the original lowland forest. Up till now the fragmented patches of native coastal vegetation only allowed a reconstruction by association of the species assemblage. This was useful in the reconstruction and restoration of the coastal forest of Ile aux Aigrettes.

Ile aux Aigrettes, a 26-hectare island nature reserve in the South East of Mauritius, has long been considered as the last typical remnant of this ecosystem. However, as the islet is calcareous and not basaltic it cannot really be considered as typical coastal forest of Mauritius.

Roches Noires, on the other hand and in the light of present knowledge, and because of its typical mainland basaltic terrain, must now be considered as the last remaining and best relic coastal forest of Mauritius, and indeed of the Mascarenes, as the island of Rodrigues has lost virtually all its natural forest cover, and Reunion having lost all of its dry coastal forests.

“The fundamental requirement for the conservation of biological diversity is the in-situ conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings. An ecosystem approach to the management of biodiversity is central to achieving its conservation and sustainable use.” (NBSAP 2006).

A critical habitat is defined as an area that is crucial to the survival of an endangered species, population or ecological community. For these reasons the Roches Noires forest has considerable biodiversity and environmental value and as such should be considered a critical habitat and protected from damage or destruction.

It must also be noted that it has become increasingly clear over the years that to be successful conservation activities must look beyond protecting a particular species or delimited area. In the wild plants do not live in isolation. They form part

of a complex ecosystem which includes the landscape in which they are found, the soil and subsoil flora and the associated fauna and microorganisms present there.

Thus, biodiversity conservation has to take a holistic view, using a comprehensive and multi-scaled approach that not only considers a whole range of interlinked plant, animal, and insect species, but also includes both reserve and non-reserve areas.

It could be argued by some that many of the trees could be saved by transplantation. This, however, would be impossible and a complete delusion since the intricate root systems of trees and larger bushes and shrubs are intricately interwoven in the interstices of the flow lava system and would not survive uprooting.

Finally, abundance, rarity and other conservation ratings consider plants and animals in the wild, in their natural condition. Threatening the very existence of many of the plant species present on the site in their natural state could end up threatening their conservation rating, an undesirable situation.

Comments regarding the project master-plan

The Masterplan reveals a very high-density project with an 18-hole golf course and hundreds of villas spread around the golf course and elsewhere. The project, if it went ahead, would have devastating effects on this important, precious and highly vulnerable coastal ecosystem.

This is even more so since the neighbouring land to the south belonging to the Bras d'Eau National Park once had an equivalent population of coastal vegetation around the wetlands, in particular the Mare aux Sarcelles. Some years ago, all this ecosystem was cut down and vandalised, leaving the coastal vegetation, a wild, not replanted or restored population on our site as the last relics of the coastal forest which once occupied much of this coast.

The native coastal forest system must, therefore, be protected at all cost. The present proposed masterplan, or any similar version, must not be allowed to proceed as no effort during the construction phase, or the operational phases, would protect the site from very severe damage.