

FAX MESSAGE

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FAX NO : 230172

TO : Mary Seely

COMPANY: EEAN

cc : B&P

SUBJECT : MÖWE BAY FISHING PORT STUDY
REVIEW OF DRAFT PEIA

GIBB Maritime
LAWGIBB Group Member 

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FROM : Peter McEwen

EMAIL : gibb@burmeister.com.na

REF : CPM/C310/97304A

PAGE(S) : 1+ 9

DATE : 29 April 1998

Dear Mary

Following our meeting earlier this week, we attach preliminary comments prepared by Laurie Gardiner on the final draft PEIA. Detailed comments have not yet been completed for the Appendices but these will be forwarded later this week.

We look forward to discussing these points and a framework for identifying inputs from the Environmental Team on the remaining work needed to complete the draft Final Technical Report at our 2pm meeting today.

Best Regards

 Peter McEwen



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DRAFT FINAL PEIA REPORT (APRIL 1998) PREPARED BY EEAN PRELIMINARY REVIEW COMMENTS

PREAMBLE

This is a summary of comments prepared following a preliminary review of the draft final Preliminary Environmental Impact Assessment (PEIA) submitted by Environmental Evaluation Associates of Namibia (Pty) Ltd (EEAN) to GIBB as an input to the Mowe Bay Fishing Port Feasibility Study. The PEIA report comprises two volumes:

1. Executive Summary, Main Text (Chapters 2-9) and Appendices A-F)
2. Appendices G (G.1, G2.1, G2.2, G3, and G4)

The two volumes are referred to in this review as Volumes 1 and 2, respectively. Volume 1 includes separate chapters providing a review of baseline environment, and a summary of potential impacts and mitigation for each of the main areas of interest taken from reports prepared by the individual specialists comprising the EEAN environmental team. Volume 2 comprises the detailed reports prepared by the specialists.

The review was performed by Dr Laurie Gardiner, Chief Scientist GIBB Environmental, on behalf of the Lead Consultant during the period 26-27 April 1998. A preliminary meeting was held with EEAN to discuss the main points on Monday 27 April. This was attended by Peter McEwen and Laurie Gardiner on behalf of GIBB and Dr Mary Seely and Dr Keith Leggett representing EEAN. It was agreed that the comments would be set down in writing so that EEAN would be able to respond and update the report accordingly for final review by GIBB. A second meeting was arranged for 2pm on Wednesday 29 April to discuss the review comments and the framework for further input from EEAN which will be needed to complete the project study requirements.

Overall conclusions and general comments are made on the main issues identified from the review. These are followed by specific comments on individual sections of the document. Recommendations for responding to the comments are made on a point by point basis. Recommendations are made on the basis that the Final PEIA will be a stand-alone report to be submitted by GIBB to the Client (MWTC, GRN) as a supporting document within the Final Technical Report.

OVERALL CONCLUSIONS

The PEIA has brought together baseline environmental data for the area influenced by the Mowe Bay port and has identified at a strategic level potential impacts associated with the proposed development. Nevertheless, several serious deficiencies have been identified with the report. These principally relate to non-adherence to the Environmental Terms of Reference (ETOR) and a weakness in the evaluation of the significance of impacts and the effectiveness of mitigation. The assessment has generally considered a worst case scenario without due consideration of less environmentally damaging alternatives and without taking into account design measures which have already been planned to limit impact (e.g. wastewater treatment), both aspects of which require consideration under the ETOR. In consequence, the findings that significant environmental impact will arise is not surprising. The analysis and summary of

individual issues focuses on potential impacts rather than a consideration of their likelihood, duration, magnitude and significance - the exception being the terrestrial component. There is no clear indication in the summary tables of the effectiveness of mitigation or conversely the significance of 'residual' impacts after mitigation has been taken into account. Social aspects (including tourism) have not received adequate coverage, particularly as major impacts are concluded for this area. Environmental costs and benefits are not quantified. Findings from the public consultation are not included in the summary (although this exercise is still being evaluated). The supporting reports by experts (Appendices G) do not have a summary/conclusions section. Overall, the PEIA report is of limited value in assessing what environmental impacts may actually occur, how significant these are and whether mitigation can effectively be applied for the range of alternatives under consideration. It is not a document which will aid and steer the development team in the task of understanding the environmental consequences of alternatives and optimising development options. It is recommended that the document be revised in light of these comments and with the minimum effort needed to comply with the ETOR. Subsequent effort should be directed at completing environmental inputs to the draft Final Technical Report. This will require revising the Options Report in line with changes in options currently being considered and a more detailed environmental analysis for the final preferred development option.

GENERAL COMMENTS

1. Reference to TOR

The main report contains no section describing the Project Terms of Reference (TOR) or the Environmental Terms of Reference (ETOR) although copy of an edited ETOR (dated 20 April 1998) appears as Appendix A. The need for this section was indicated by GIBB in the proposed table of contents for the ETOR and is anyway a reporting requirement under Namibia's EA policy. A new Section 2.2 (Terms of Reference) should be inserted. The section should reference the TOR (e.g within the Inception Report) and quote appropriate text to summarise project environmental requirements (i.e. extracts from Sections 3.2.2.2 and 3.5.2.1 iii) e). The new section should also include a comment to the effect that Terms of Reference for the Environmental work were drawn up by GIBB in consultation with EEAN and these are given in Appendix A. Appendix A should comprise Appendix E from the Inception Report with an introductory note indicating any deviations from this ETOR which were agreed with GIBB.

2. Adherence to TOR

A number of aspects of the Environmental TOR have not been addressed or have not been adequately studied:

1. **Assessment of Impacts** - in many cases only potential impacts are considered by the specialists and therefore the analysis is superficial. With few exceptions (e.g. terrestrial impact), the assessments do not address the significance of the resultant impact. Many impacts from the development will be local in nature and can be mitigated to a degree. Others will be of national or international importance (e.g. concerns regarding loss of unique wilderness and associated tourism impacts). The strategic study needs to identify and differentiate these impacts. The approach

adopted for assessing terrestrial impacts should be extended to the other areas under consideration using summary tables in each specialist report to present the findings. The table should include a column indicating the mitigation potential for each identified impact on a qualitative basis (e.g. high, moderate, low, none). The summary table should be amended to record the *significance of impact after mitigation has been fully taken into account*. These tables should be carried forward to the main report and used as a basis to present the main findings.

2. Proposed Project Infrastructure - the PEIA has in most cases not taken account of proposed project infrastructure which will limit environmental impact (e.g. industrial wastewater treatment plant; sewage treatment works, solid waste landfill etc). Hence incorrect conclusions have been drawn on the likely impact from the proposed development e.g. impacts from direct discharge of high BOD fish processing waste to the harbour will be avoided by on-shore pre-treatment and discharge through a 200m outfall. The EEAN team should review Appendix F (Township Infrastructure) of the March 1997 Options Report, reassess the significance of impacts and modify the conclusions in line with the findings.
3. Mitigation Measures - these have been proposed but there is no analysis of their cost or effectiveness (other than ill-defined references in Table 9.2 to limiting, diminishing or partially ameliorating impacts). An impact which is considered major without mitigation (but which has a moderate/high potential for mitigation), will obviously be reduced in impact where mitigation is put into effect. Several instances of this were identified in the PEIA. A major impact is associated with over-abstraction of groundwater from the mouth of the Hoarusib River with moderate potential for mitigation. The author recommends monitoring measures to ensure abstraction rates do not exceed recharge rates as well as burying the pipeline to minimise visual impact. In this instance, effective mitigation has been identified to reduce the impact and this should be acknowledged in the analysis (Table 7.2.3) and the costs taken forward. In cases where significant impacts cannot be mitigated e.g. loss of wilderness, this needs to be clearly differentiated in the strategic analysis. Refer to Point 1 regarding recommendations to address this issue.
4. Environmental Benefits - these have not been adequately identified or assessed. These could include employment opportunities (harbour construction, operation and maintenance; fish processing; marine servicing etc), additional tourism potential (e.g. support for land based and marine based tourism such as game fishing, recreation and amenity centre); opportunity for multiple use port with integrated development of local resources. Such benefits were identified by the Environmental Consultants in the formulation of Option 3 but this has not even been mentioned. The PEIA needs to be an unbiased assessment of all impacts - beneficial or adverse. Benefits should be flagged up in the specialist reports and the main report under sections in which they occur and conclusions drawn in the Executive Summary.
5. Economic Costs - the economic analysis of environmental costs and benefits does not identify costs in real (US\$) terms. There is a clear need to identify the environmental costs (and benefits) in the PEIA so that they can be brought forward in the economic analysis of project viability. Costs will include costs of proposed mitigation and monitoring measures as well as so called external costs - those

(residual) impacts which cannot satisfactorily be mitigated e.g. loss of wilderness, sense of place etc. Where these impacts cannot be quantified, the report should so indicate and highlight the need to take this into account in consideration of project viability. A section should be added to Chapter 8 (Environmental Economics) to cover this aspect and an appropriate reference included in the Executive Summary.

6. **Analysis of Alternatives -** Task 2 of the ETOR requires an analysis of alternatives. Table 3.4 of the PEIA sets out the infrastructure framework for the project in terms of options, Infrastructure components and which alternatives are being recommended or considered within each component. In analysing impacts of the proposed development e.g. harbour, processing, power, roads, the PEIA has generally considered a worst case scenario (Option 2) - no consideration has been given to identifying alternatives where environmental impacts could be reduced or even avoided. For example, the assessment of the road component (Appendix G4, Section 7.2.4) assumes that a new road from Mowe Bay to Opuwo will be included by default without looking at lesser impacts from upgrading existing roads. The power section only considers the effects of power lines to the national grid - no analysis is made of local diesel generation /solar heating/wind power (all relatively benign alternatives). Under Water Supply, the report only considers abstraction from the mouth of the Hoarasib River - there is no separate consideration of desalination of seawater (a relatively low impact alternative). In this instances there are viable alternatives which could be considered but which have not been taken forward and developed in the PEIA (as required by the ETOR). It is not recommended that this be undertaken in terms of revising the PEIA as this would take too long. Instead, the revised PEIA should make clear reference to that fact that a worst case option has been considered but that there are options where many of the identified significant impacts could be avoided or mitigated (and refer to the draft Environmental Options Report in Appendix C).
7. **Framework/Methodology for Environmental Assessment -** although not required by the ETOR, there is no section describing the framework and methodology of the strategic assessment. In other words, the approach used by the environmental team to identify, predict and evaluate strategic environmental impacts. The approach adopted by the specialists is not consistent and varied from a discussion of background information on potential impacts in the marine environment with outline mitigation measures (Appendix G2.2) to a more rigorous analysis (Appendix G4 on terrestrial impacts). This aspect should be acknowledged in the Section 2.2 (Approach to Study) together with the comment in 2.6 above regarding assessment of worst case scenario.
8. **Socio-economic Impacts including Tourism -** there are major impacts in these areas from the PEIA findings yet these topics are not accorded an in-depth analysis within the study. There is no section dealing with socio-economic impacts although elements such as tourism and welfare are considered under Appendix G-4 (Terrestrial Environment) alongside water, biodiversity, health and pollution. The scope of this Appendix is too broad and does not allow a clear appreciation of impacts within the respective areas. The baseline information (Section 7.1.6) on Tourism is only 7 lines long and inadequate for the amount of published research data in this area from the Ministry of Environment and Tourism and the vital

importance of this aspect for developing the local economy. It is recommended that Appendix G-4 be split up with a separate Chapter covering socio-economic impacts and addressing tourism, recreation/amenity, community severance and welfare etc. EEAN should be aware that GIBB has commissioned a socio-economic study (by Mr Tapscott) which will need to be integrated into the Final PEIA.

9. Use of Natural Resources for Construction - this aspect does not appear to have been addressed, as required under the ETOR. There are potentially significant impacts from the supply and transportation of natural materials in the construction of the harbour and roads e.g. use of borrow pits. This aspect needs to be assessed within the PEIA.
10. Solid waste management and Wastewater Treatment - there has been no detailed specialist study on these topics. They have been given superficial examination under Section 7.4 of the main report. This section appears to be a later addition to the report and the style is more a discussion of potential issues than an analysis of impacts from the proposed development. Many of the recommendations put forward have already been incorporated within the proposed infrastructure design. It is clear that the author has not read Appendix F (Township Infrastructure) in the Options Report. This includes provision for a domestic sewage treatment plant 1 km east of the town with water reuse for irrigation; a separate industrial wastewater treatment plant with marine outfall; and a sanitary landfill site north of the town. The essential requirement for a hazardous waste disposal facility at Mowe Bay, as recommended in the PEIA, has not been demonstrated - the alternative of temporary storage in a suitably contained area pending shipment to Walvis Bay may also be an option.

SPECIFIC COMMENTS - VOLUME 1

Cover Page - amend text to indicate PEIA has been prepared for GIBB Ltd as part of the Feasibility Study.

Cover Photograph - a picture showing wrecked boats while appropriate to the Skeleton Coast is not considered particularly sensitive in the context of a new port; a panoramic view of Mowe Bay would be a better choice.

Executive Summary - to be amended in line with revisions/changes/additions to the main text as appropriate; comments to be provided following submission of second draft.

Terminology used - brief examples of secondary and cumulative impacts would assist the non-technical reader in understanding these concepts.

Table of Contents - amend in line with comments elsewhere on restructuring report (e.g. sections on Socio-economic/Tourism etc ; include section on TOR; move Section 3.3. (Planning and Policy Framework) to Section 4 as it does not have any bearing on project Description; amend Ch 4 title to include land use planning; change Ch 9 title to Summary, Conclusions and Recommendations (or similar) - no alternatives have been considered. Include list of appendices in Vol 1 (and separate contents list for Vol 2).

Sec 2,1 last para - include a brief summary of what the findings were for Options 1, 2 and 3 from the draft Environmental Options Report and how the PEIA links in with this study.

Sec 2.2.1 first para - alternatives were not compared and the reference to this should be deleted. Appendix A contains the environmental TOR not the project TOR. The PEIA will need to be significantly amended if it is to address all the environmental requirements set out in the project TOR e.g. environmental impacts of different options and of the final preferred option - these aspects may instead comprise additional sections in the environmental portion of the Final Technical Report.

Sec 2.2.1 last para - this paragraph will only apply if the PEIA *does* include the relevant sections such as landscape, natural resources etc which are missing in the first draft.

P8 - this is missing in the review copy.

P9 - last para - the limitations here should be cross-referenced to the relevant sections in the report where they are discussed.

Chapter 3 summary - last sentence is not appropriate to chapter title (Project Description) and should be moved to Chapter 4 where the planning framework is considered. A summary of the project elements section should be inserted instead.

P13 - this is missing in the review copy.

P13 and 14 - Sections 3.3.1 and 3.3.2 on land use plans etc should be moved to Ch4.

Section 3.4 - this section is far too brief for a stand alone report and would not satisfy the Namibian guidelines for EA reporting (Project Proposal); the section should include a brief overview for Options 1, 2 and 3 given in Table 3.4 with a cross-reference to details in Appendix 1 of the Options Report (Appendix C of the PEIA). The project elements listed in Table 3.2 which have been assessed in the PEIA should be clearly stated and an explanation given where such elements have not been considered.

Ch4 summary - this should be amended to include limitations regarding land use plans/policies.

Sec 4,1 - a summary of the implications of the draft Environmental Management Act (buried in Appendix G-1) and the National Development Plan (not assessed) would assist the reader. This section also needs salient points from Namibia's Environmental Assessment Policy (with appropriate cross-reference to Appendix B).

Ch5 Summary; second paragraph - the socio-economic impact regarding seasonal employment would be better placed within a summary of the chapter on socio-economics.

Section 5.2 - first sentence: Appendix G-2 doesn't exist; Appendix G-2.1 may be more appropriate but this only contains baseline data on the marine environment - it does not include an assessment of impacts of the proposed development on fishery stocks etc as

stated in Section 5.2. As there is no detailed expert report in Appendix G on fisheries resources, some additional text should be given to describe the potential impacts listed. Reference should also be made to the expert report by MRAG on fisheries resource as this is likely to be the definitive study in the context of this project.

Table 5.2.1 - column titles should be defined, in particular the difference between long-term cumulative effects and secondary cumulative effects ; and between environmental sustainability and environmental viability; the reference to economic viability should be deleted as this is not an environmental issue and it is addressed in detail outside the PEIA. The table lists potential impacts - but what is their significance and to what extent (high, medium, low etc) can the effects be mitigated? i.e. an analysis as per terrestrial impacts (cf Table 7.2.3).

Section 5.3 - mitigation given in Table 5.3 does not appear to be included within either Appendix G2.1 or G2.2.

Chapter 6 summary - the conclusions regarding impacts on the coastal environment from Mowe Bay are not supported by the two specialist papers on the coastal/harbour environments (Appendices G2.2 and G-3); this summary needs to be revisited in the light of comments below.

Section 6.2 - the impacts are POTENTIAL and could realistically be applied to any harbour development ; reference needs to be made to Appendix G2.2 as this also has examined impacts of Mowe Bay port on the coastal/harbour environment - the is scope for confusion here as both Appendices overlap in their assessments.

Table 6.2 - there is essentially no difference between potential impacts on benthic and littoral environments and these could be combined for simplicity; The conclusions drawn from the summary table are erroneous as these are only potential impacts. It will be found that many so called potential impacts will not be significant in the context of Mowe Bay, particularly when the port infrastructure is taken into account (e.g. sewage and wastewater treatment plants). Additional tables are required here to summarize the significance of impacts (cf Table 7.2.3). Post-mitigation impacts should only be considered in the final assessment.

Table 6.3 - many of the proposed 'mitigation' actions have indeed already been catered for in the port design (land based sewage treatment and disposal etc); mitigation potential (high, medium, low etc) as well as indicative costs should be identified.

Section 7.2 - the approach adopted in this study regarding assessment of significance of impacts should be extended to the other studies with appropriate summary tables prepared;

Table 7.2.1 - X under aquifer exploitation should logically be under Water column; subtitles (e.g. tourism, biodiversity etc) with impacts grouped accordingly would help simplify the left hand column and reduce the table to a single page.

Table 7.2.2 - what do blanks signify and what is difference between blank and X? The logic of denoting a negligible impact with an X is questioned; cumulative impacts on

biodiversity were denoted XXX in Appendix G-4; how do the impacts change if mitigation as proposed is applied? How significant are the residual (post-mitigation) impacts in terms of local, regional or national/international importance? How does the analysis take account of tourist gains/benefits as concluded in Chapter 8 (p44)? No impacts are considered for solid and wastewater disposal, and extraction of natural resources.

Section 7.2 last para - according to the findings of Tables 7.2.2 and 7.2.3, tourism biodiversity and health impacts are particular to the construction phase; however, impacts on welfare replace health as a significant issue and water (abstraction) impacts are cited as being of importance during the operational phase.

Section 7.4. - refer to comments under point 2.10 above.

Chapter 8 Summary - the positive impact on tourism for a small clean harbour has not been identified in Ch7 under tourism; this Chapter is the only one which considers impacts (in this case costs/benefits) for the four options.

P44 - The author notes that all development options will impact negatively to some degree on the unique wilderness of the Skeleton Coast although the effect will depend on the nature of the development. He identifies Option 3 (partial processing) as generating fewer environmental costs than Options 1 and 2, and the greatest benefits from tourism. He identifies loss of competitiveness of the park to international tourism as a result of the development as a potential impact but suggests that this negative perception could be reduced with additional marketing.. This analysis does not appear to support the conclusions given in the Executive Summary that "the tourism potential of the region will be severely reduced by the development of a Fishing Port...". The position regarding benefits/conflicts with tourism in Kunene is complex and deserves a detailed study.

Chapter 9 Title - no alternatives have in fact been analysed and the title should be changed to reflect the actual contents.

Table 9.1. -this analysis is based on potential impacts which do not take account of environmental control plant and mitigation measures; the marine environmental impact is shown as minor - presumably this is a typo else it should not be included in the table; impacts on the coastal environment are not considered to be significant according to the findings of the specialist reports; the socio-economic environment needs a separate assessment to do justice to this issue; jobs during the construction phase represent a benefit and the table impact summary 'minor in short term' should be adjusted to reflect this.

Table 9.2 - see comments above regarding terms such as "partially ameliorated" and the need for a firmer quantification of mitigation potential - is it only 10%, 50% or 90% effective. Also what are the approximate costs of mitigation - \$10k, \$100k or \$1000k+?

Section 9.4 - the PEIA should provide a statement of the environmental impacts of options/alternatives that have been considered without any recommendations for any

one Option or whether or not the development should proceed (this is an observation of Mr Lowe , MWTC).

Appendices A to F - comments to follow

Appendices G (Volume 2) - comments to follow

References - the source of factual data quoted in the text should be referenced.

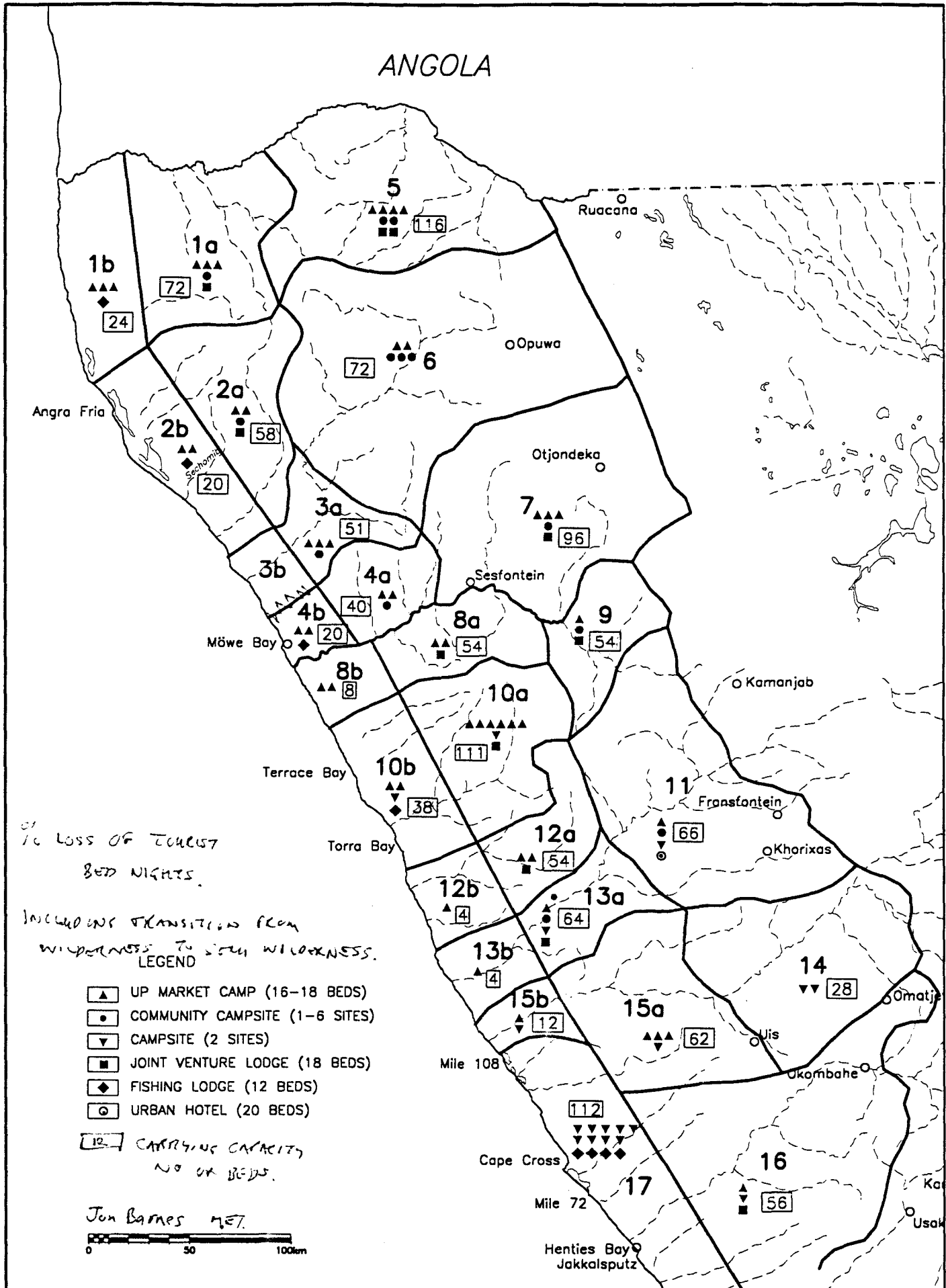
Figures - these need to be included and referenced in the text.

Cross-references - individual sections should cross-reference other sections to avoid repetition of similar data/text.

Spell check, pagination, correct table references etc - editorial aspects should be checked as there are some discrepancies.

LRG/28.04.98

Rev 0



**MÖWE BAY FISHING PORT
FEASIBILITY STUDY**

ENVISAGED CAPACITY OF TOURIST FACILITIES
WITHIN ENVIRONMENTAL CARRYING CAPACITY

GIBB

LAWGIBB Group Member



FIGURE 2

To Fax 092 64 61 ~~23~~ 230172

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To: Wally Seely - DRAN - (or - 3 Pages).

From a wet and windy Cape Town -
 Sorry about the hand written stuff -
 Busy with a national workshop on
 the future of biodiversity in South Africa.

I have looked at the tourism reports
 and have come up with some
speculative discussion.

The potential cost of the harbour development
 creating a negative perception that may
 negatively influence the number of
 visitors to Namibia. As the Skeleton
 Coast park is currently underdeveloped
 regarding tourism, with most visitors
 being fishermen etc, it is likely that
 the potential number of visitors negatively
 impacted is likely to be small.

There is not current demand for the
 natural history of the park (or not a
 large one).

If we assume that there may be
 a 1% to 2% reduction in visitors to
 Namibia, then a N\$60m to N\$13m pa
 loss may be incurred.

However, as the numbers are relatively
 low, a marketing strategy of some

N\$ 500 000 pa, may increase tourists numbers by a few % points. But the question is, who will pay for such marketing.

On the other hand, should St Paul provide additional opportunities for tourists. For example, should the Park be able to capture 20% of the Etosha visitors, then some 53 000 ^{visitors} could be unpeaked. If these 53 000 visitors stayed one extra night in Namibia, with an expenditure of N\$ 500 per day, then, an additional N\$ 26.5m could be added to the current earnings from tourism. (Similar to option 3 or N\$ 27.5m pa). (So no extra gain different from David Tagg's estimates)

However, as Namibia offers an internally internationally unique desert experience which is marketable, for example Serengeti's already attracts 40% of Namibian tourists, there then it may be possible to increase tourist numbers visiting Namibia by additional marketing.

If the marketing is effective, i.e. attracting new international tourists for a unique desert experience, and the numbers of

visitors to Skeleton Coast ~~land~~ could be

increased to 40% of the Etosha visitors (that is, 25% of international tourists or 100,000 visitors), and if these visitors spent ~~an~~ N\$ 500 per night for \pm extra night in Namibia, then some N\$ 50m could be generated per annum.

The above estimates have used a simplistic approach ~~but~~ by assuming that with additional resources, visitors would extend their stay or there may be additional visitors attracted due to the additional opportunities. As these estimates are conservative they are not unrealistic.

I hope these are useful for your discussions.

Wesley

Tel. 082 8080 315

To Wray Seday - Desert Research Foundation

- There is a danger that due to increasing investment in the fishing industry, there will be a need to derive adequate returns from the fishery to meet both profit requirements and the need to finance the loan. (both ⁱⁿ private and ~~state~~ sectors). This may lead to pressure on fish stocks by both fishing companies (increased effort) and by government departments (fishery quotas).

There may be questions regarding the ability of officials in the fisheries management department to limit pressure from other departments and politicians regarding the size of the fish quotas. If government invests in the harbour, then there is likely to be pressure to guarantee returns to govt from the investment. It is likely that a less conservative approach may be adopted regarding the fishery quotas.

- Impacts on Walvis Bay.

- There is likely to be a reduction in the economics of scale in the fishing industry. For example, the services supplied are economical due to the number of consumers. - So, if Walvis Bay develops, then there is going to be problems in supplying services to two localities. Costs will therefore be greater and less economical.

The industry is already reported to be relatively un-competitive at a world level. Increasing costs, by having to supply the same quantities of resources with more people and more infrastructure, is likely to make the industry less competitive.

- Labour -

upward jobs are only likely to be increased for the duration of the construction phase. Thereafter, the jobs are likely to shift from Walvis to Ufwe. However, unskilled labour may not migrate from Walvis but may migrate from localities in closer proximity to Geopark, etc.

- Waike Bay industry -
 a heavily water industry may be
 threatened as the grid is split between
 the two localities.

- Increasing the financial burden on government departments if ~~of~~ fish yields don't increase and consequently tax revenue does not increase.

Without an increase in tax revenue, the delivery of services, particularly at Waike Bay is going to be problematic. The costs of providing health, education, welfare services, water, etc to a community in the Waike Bay area is likely to be more expensive than in other localities with existing infrastructure.

This tax revenue issue is critical to the previous argument where pressure may be placed on the fishery to generate revenues for govt spending.

* There will be ~~a~~ a dramatic increase in incentives to utilize Waike Bay at an economically efficient level, that is, maximise fisheries resources.

primary minerals - from a political level - to
show success, from an economic level - to

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ensure that the debt to government will
be serviced.

- What are the relative costs of producing
1 job at Uluru Bay vs Walrus Bay?
If jobs are the critical issues, then
the question that begs answering is -
where can the jobs be created in
the most efficient manner? More
jobs may be created in the locations
with the same amount of investment
from government. However, govt may
be looking towards industry in generating
all the jobs - but the question is,
how sustainable with this approach
bc. If the industry declines at
Uluru Bay, then who will deal with
the welfare implications of the resident
population - the industry would be able to
do it, then government will have to
do this - and at what cost.

- An important question is also, is
who will benefit. How many jobs
will be created - in the skilled,
semi skilled and un-skilled labour
sectors.

- Several documents have indicated that the fishery is already suffering from over-capitalisation. Additional investment will exacerbate this, resulting in an increase in incentives to reduce this effect - resulting in a need to increase returns, and therefore increase the yield.

- In terms of the monetary costs of the development in regard to tourism, I have looked at the options for tourism that David Togg suggested. He has indicated 3 levels of tourism development for the 3 options suggested.

I would support his estimates, e.g.

① ± 20 Rooms for option 1 → ± 7.5m pa.

② ± 80 Rooms for option 2 → ± 20m pa

↳ but this may be too high -
it may be between the 20-80 -
therefore around 30-35 Rooms
and ∴ between ± 17m pa.

③ ± 75 to 80 Rooms for option 3 → 27.5m pa.

I will work on these estimates are relevant regarding local impacts (Skeleton Coast Park).

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Therefore the cost of option 1 vs option three is $27.5m - 7.5m = \pm N\$ 20m$ loss.

option 2 vs option 3
 $27.5m - 20m = 7.5m$ loss pa.

The third option is likely to produce 27.5m pa as it would be the most clean form of development with the necessary infrastructure put into place to attract tourists and to give them access to the area.

The fourth option, no development of a harbour and no road development, would probably allow ± 20 Boats to be developed that would cater for flying safaris in the region that could pass on the coast areas. These Boats are likely to be situated in a number of camps in the region. So, with few costs in development \rightarrow Roads, etc, a fairly good return $\pm 7.5m$ pa could be achieved.

I will work on the national implications of the options during the course of the days.

0

Call 012 8080319 ~~Wly~~ Pes.

1

Our ref: PrelimOR.wak

2/7/9
 Attn: M. Mander
 00 27 331 460895

1/2
 from: M. Suley



MÖWE BAY FEASIBILITY STUDY

Preliminary Options Report

Comments by : Willy A Klein

1. Nul option : to be definitely included
2. Verify premise re Fisheries Management
3. 3.1 Accuracy of "Secondary Benefits" to be defined and when will they come on stream - specifically
 - * Mining
 - * Tourism
 - * Industrial
- 3.2 Certainty of these being realised
4. Include Environmental Costs in Total Costs
5. Consider an option in which a modular approach can be considered
6. Costs and Benefits to be stated in US Dollar
7. State aspects not presently considered, but which NEED to be studied/verified later in or outside the Feasibility Study, for all options.

Signed:


 W A Klein

Date:

11/03/98



P.O. Box 9649 Windhoek Namibia ☎ +264 (61) 222773 239778/9 Fax -264 (61) 220403

Director: W A Klein Pr Eng BSc Eng (Civil) MBA

COMMENTS ON PRELIMINARY OPTIONS REPORT
BY: K C KELLERHALS, ENGINEER: DESIGN

ATTN
0027 331 4600
2/2

General Remarks: ^

According to the Terms of Reference p10, the following points must be considered for each option:

- a) Impact on existing and planned facilities at Walvis Bay
- b) Requirements for optimal on-shore processing at Möwe Bay and for marketing and distribution of fish products so processed at Möwe Bay
- c) Port and land-based infrastructural requirements
- d) Technical, economic, and financial feasibility and viability, including a risk and sensitivity analysis of constructing and operating the fishing port and its directly linked associated infra-structure
- e) Environmental impacts (*incl. environmental costs*)
- f) Alternative strategic implementation scenarios
- g) Any aspects which will have material impact on the final design, costs and feasibility of Möwe Bay operating as an entity, but which had not been considered in this project and which thus require to be incorporated into the implementation stage

In general a more detailed analysis including quantifications is required, especially with regard to items a), d) and e). Before options can be ranked, the economic and financial analysis (including a risk and sensitivity analysis) must be carried out for each option. I especially missed the risk analysis regarding fish availability (apparently under way), but such an analysis is also required regarding mining and tourism.

It seems clear that without such an analysis no preferred option can be evaluated.

In the comparison of options the "do nothing"-option should be included as well as sensible combinations of the suggested options.

Please check the scales on all the maps; most of them are wrong or non-existent. The comments made by Department of Water Affairs regarding the maps are supported.



INR Code/Ref: _____

INSTITUTE OF NATURAL RESOURCES

Promoting the wise and sustainable use of natural resources through the integration of conservation and development

To: Fax No.: 002 6461 230172 Date: 23 Feb '08
 Name: Mary + Keith Time: 07h40
 Dept: DRN No. of Pages: 6
 (Including this page)

Organisation: _____

Town: _____ Country: _____

From: Wyles Warden

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1. *Urgent* - Please contact addressee
2. *Confidential* - Please forward under cover
3. *Non-urgent* - Please forward normally

MESSAGE:

Dear Mary + Keith,
 Please find attached some notes on potential impacts. This is very much preliminary - I need to give it a bit more thought - but would be useful for your meeting.

Wyles

Private Bag X01 Scottsville, 3209, South Africa. Telephone: (+27 331) 46-0796. Facsimile: (+27 331) 46-0895
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POTENTIAL IMPACTS ARISING FROM CHANGES IN THE DELIVERY OF ENVIRONMENTAL SERVICES

THE HARBOUR DEVELOPMENT

Service impact	Economic impact
<p>A large structure developed in SCP Impact on the sense of place within SCP</p>	<p>Reduce the value of the region as a national and international wilderness Reduce the stock of assets for tourism in Namibia</p>
<p>Increased shipping activity inshore Increased shipping activity Increase the risk of pollution from shipping Impact on the sense of place within SCP</p>	<p>Reduce the value of the region as a national and international wilderness Increased risk of pollution control with high financial costs Increased risk to the perceived wilderness value of the SKP Pollution events could reduce tourist visits and reduce economic returns</p>
<p>A harbour development creating a safe mooring site</p>	<p>An opportunity for marine based tourism An additional tourism opportunity for Namibia An opportunity for game fishing safaris</p>

THE FISH PROCESSING PLANT

Service impact	Economic impact
<p>Water abstraction could reduced freshwater in the natural environment Reduced numbers of game and birdlife in the affected areas Flagship species such as the desert elephants and rhinos may reduce their frequency of visits to the affected areas</p>	<p>Limit opportunities for tourism Reduce Namibia's competitiveness as an international ecotourism destination Mitigation costs would be high with the need to desalinate water</p>
<p>A dirty industry could produce noise, effluent, visual pollution and odours within the environment Reduce the attractiveness of the area to tourists and town residents</p>	<p>Reduce the value of the region as a wilderness Limit tourist numbers and consequently reduced economic returns Effluent management may have high mitigation costs - local waste treatment plant or removed to other locations</p>

<p>A large industry could attract large numbers of job seekers [but unsuccessful in the short term] who would need to settle and rely on the local environment for service provision</p> <p>Reduce the attractiveness of the area to tourists and town residents Large numbers of people living in SCP Consumption of local resources and possible threats to high value species such as elephant and rhino</p>	<p>Reduce the value of the region as a wilderness Limit tourist numbers and consequently reduced economic returns Management of harvesting may have high costs eg. diverted resources from nature conservation activities, provision of alternative resources</p>
<p>A large demand for industrial inputs will require a large volume of either road or shipping transport</p> <p>Reduce the attractiveness of the area and road route to tourists Conflict between road industrial transport and tourist traffic from Mowe Bay to Walvis Bay</p>	<p>Reduce the value of the region as a wilderness Limit tourist numbers and consequently reduced economic returns Increase road maintenance costs Upgrading of road for extensive areas could be necessary with high costs Mitigation may require the temporal separation of road use, with costs for local industry Reduce Namibia's competitiveness as an international ecotourism destination</p>

THE PROVISION OF ELECTRICITY

Service impact	Economic impact
<p>Electricity generation through diesel may increase the risk of pollution in the area</p>	<p>Pollution control costs</p>
<p>Electricity provision via the national grid would create a negative visual impact in SCP</p> <p>The construction of power lines is likely to lead to a scared environment where large vehicles would move through sensitive environments The sense of place would be negatively impacted</p>	<p>Reduce the value of the region as a wilderness Negatively impact on tourist perceptions of the region for existing tour operators Limit tourist numbers and consequently reduced economic returns</p>

ROAD DEVELOPMENT

Service impact	Economic impact
<p>A road developed to the north through the rugged mountain west of Purros Major earthworks would result in a scarred environment, with a negative influence on the sense of place</p>	<p>Reduce the value of the region as a wilderness Negatively impact on tourist perceptions of the region for existing tour operators Limit tourist numbers and consequently reduced economic returns Mitigation costs to limit soil wash and runoff damage would be high A road from the north would be more attractive for tourists to make 'round trips' from Etosha, and would increase numbers into the area</p>
<p>A road from the north may accelerate informal urbanisation at Mowe bay, reducing the attractiveness of the area for tourists</p>	<p>Reduce the value of the region as a wilderness Negatively impact on tourist perceptions of the region for existing tour operators Limit tourist numbers and consequently reduced economic returns Mitigation could require that special areas be allocated and developed for in-migrants</p>
<p>Access to a port to the northern regions of Namibia and southern Angola may promote increased harvesting of high value species such as pangolin and elephant</p>	<p>Increased costs for wildlife management in the region Loss of access to high value species for national and international community Mitigation could require strict security measures for the port</p>

FRESHWATER PROVISION

Service impact	Economic impact
<p>Water abstraction from river-beds could reduce game in the region, particularly flagship species such as elephant and rhino</p>	<p>Reduced opportunities for tourists Reduced opportunities for tourist camps Negatively impact on tourist perceptions of the region for existing tour operators Limit tourist numbers and consequently reduced economic returns</p>

A dam would reduce the wilderness experience	Reduce the value of the region as a wilderness Negatively impact on tourist perceptions of the region for existing tour operators Limit tourist numbers and consequently reduced economic returns
A dam could alter game movements by reducing water access in the lower river but increase water access to the upper area Could provide a more permanent site for game viewing	Reduce the value of the region as a wilderness Negatively impact on tourist perceptions of the region for existing tour operators Could be an opportunity for a tourist camp

THE AIRSTRIP

Service impact	Economic impact
Increased aircraft activity could alter the sense of place	Reduce the value of the region as a wilderness Negatively impact on tourist perceptions of the region for existing tour operators Mitigation could require airspace zoning and reduce the most economic flight paths for tourist and fish transport routes

THE RESIDENTIAL AREA

Service impact	Economic impact
Reduced attractiveness for tourists	Reduce the value of the region as a wilderness Negatively impact on tourist perceptions of the region for existing tour operators Limit tourist numbers and consequently reduced economic returns Mitigation could require that a residential area be located a short way from the port with transport costs
Large numbers of residents would require recreation opportunities and could conflict with the exclusive tourism in the area	Reduce the benefits from high paying tourism

Large numbers of residents would create increased road traffic and negatively impact on the	Strict management of road traffic will be required with higher management costs
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SECONDARY IMPACTS

Service impacts	Economic impacts
<p>Large investments could provide incentives to promote a less conservative approach to catch quotas Increased pressure on the existing fish stocks Accentuation of the cyclical nature of the fishery</p>	<p>Increased fluctuation of employment provision Fluctuating need to provide social services Dependence on a variable economy may reduce incentives for investment in the region</p>
<p>The development of linear service infrastructure in SCP is likely to make a negative visual impact on a large proportion of the park Infrastructure is likely to impact negatively on airborne tourism</p>	<p>Reduce the visual amenity and the sense of wilderness for tourists, with a limitation potential tourist development options</p>
<p>Development in the SCP which is not compatible with the perspectives of tourists may reduce its attractiveness to tourists Negative perceptions in European countries could reduce the attractiveness of Namibia as an ecotourist destination</p>	<p>Potential development opportunities may be foreclosed The international competitiveness of Namibia as a ecotourism destination could be decreased</p>
<p>The development of tourism in the region</p>	<p>Increased tourism is likely to boost the resources allocated to conservation activities in the region</p>
<p>A new development with international funding and a location selling products internationally is likely to be required to meet international standard: and ISO 14000 requirements</p>	<p>Meeting the required standards and auditing will need high levels of environmental management with high costs</p>
<p>An industrial development within the Skeleton Coast Park would negatively impact on the status of Namibia in international conservation fraternity</p>	<p>Reduced opportunities for international funding for conservation activities</p>

MöWE
BAY.

Desert Research Foundation of Namibia

From: Myles Mander <manderm@inr.unp.ac.za>
To: drfn@iwwn.com.na
Subject: Mowe Bay
Date: 19 February 1998 10:42

Dear Mary and Keith

Please find some notes on tourism potential for the Mowe Bay area. I hope you find it useful for your initial thoughts.

**POTENTIAL TOURISM OPPORTUNITIES WITHIN
SKELETON COAST PARK**

Tourists have generally not had access to the Skeleton Coast Park [SCP], yet it features highly in most of the promotional and marketing materials. It is likely that an inclusion of the SCP within the tourism marketing could attract additional tourists to Namibia or extend the duration of visits. The perceived overcrowding problems at Sossusvlei indicate that desert experiences are in high demand.

There are probably opportunities for both exclusive camps in various nodes and for a general camp at Mowe Bay.

It is my opinion that a facility at Mowe Bay could act as spring board for tourists going to both exclusive camps and for tourists wishing to go on day excursions. In both situations the tourists would need to be accompanied by guides for providing interpretation of the local environment, tourist safety, and environmental management.

NODES WITH CLUSTERS OF FEATURES FOR TOURISTS

Upper Hoanib
Lower Hoanib
Mowe bay
Upper Hoarisib
Lower Hoarisib
Rocky Point
False Cape Frio
Cape Frio

[The upper sections of the rivers, refer to a location still within the SCP]

My feeling is that the Mowe Bay site could accommodate 80 beds - with tourists using marine, desert, historical features, general recreation and pelagic game fishing. In addition, I

believe that another 60 people could be accommodated by another 6 small camps of 10 people each - which caters for small groups in rustic but well serviced facilities.

I believe that these potentials will depend on the tourists perspectives of the Skeleton Coast Park. As the tourism does not depend largely on big game, the sense of place - the expansive desert wilderness and peoples' humility - will be important in attracting tourist. Whatever development takes place, it must not conflict with national and tourists *sense of place' of the Skeleton Coast Park.

Please look at this and if you are happy with it, pass it on to David Tagg at Burmeister. They are preparing their own tourism scenarios.

Please let me have your home numbers. I need to go away to Pondoland for two days and will prepare some more economic details for your meeting. I have not been able to develop all I need to for you. I will work on it on the weekend.

Hope your cold [Mary] is getting better.

Myles

L M Hesse
P O Box 207
Swakopmund
Tel: Home: 064 - 404525
Office: 064 - 402411 x 2280
Fax: 064 - 402181

27-2-1998

Burmeister & Partners
P O Box 1498
Windhoek

Attention: Wouter van Zijl

Dear Sir

MÖWEBAY - ENVIRONMENTAL IMPACT STUDY

1. It is with surprise that at a very short notice public enquiry are undertaken in Windhoek and Walvis Bay. Both dates are totally unsuitable for me to state my strongest reservation in regard to a possible Harbour at Möwebay, within a very special Nature conservation area. The status of this area must rate "World wide" as one of the most rarest "Wilderness" areas in the World and very strong international protest can be expected if a commercial Harbour is erected at Möwebay.
2. There must be considerable research material available in regard the previous study for the Harbour at Möwebay by the Fishing Industry in the late 1960's or early 1970, as well as the reasons for not starting the Harbour development, a special Development Fund was created and the Administration of the Old South West Africa was strongly involved, as well the Government of South Africa. The investigation must clearly answer this very old questions and must publish the findings on previous investigations and summary of these reports to compare the projects differences.
3. The Hoanib River with its catchment area is one of the major rivers in the Kaokoland and a possible dam need a in depth ecological environmental impact study where flood volumes, fauna and flora impacts, ground water quality below the proposed dam and its effects on the below dams flora specific indigenous trees, with increase of salinity in the ground water quality over short term and long term; (see also the damage at the Swakop river, Khanriver, Omaruru rivers as well to a extent in the Kuiseb river) must be in detail evaluated, against present nature conservation international standards and local rules.
4. With a possible township development at Möwebay and a special Nature conservation area surrounding a possible township, the following concerned questions must be asked:
 - A. What measurements will be implemented to avoid any spread of exotic plant life into the Nature conservation areas?
 - B. What type of sewerage purification will be considered for the township?
 - C. Will there be recycled effluent water available for township irrigation?
 - D. What measurements will be implemented to avoid wild animals movements into the proposed township? (Large animals such as Oryx, springboks and even larger).
 - E. What type of waste or refuse dumping will be implemented for the proposed township (strong winds, paper, plastic waste movements) to avoid surrounding Nature conservation areas to be littered by wind pollution, and danger to wild life and fauna and flora.

Our Ref: CPM/C310/97304A

27 April 1998

The Permanent Secretary
Ministry of Works, Transport and Communication
Private Bag 13341
Bell Street
WINDHOEK
NAMIBIA

For the attention of Mr E H Lowe

Dear Sir

MÖWE BAY FISHING PORT STUDY
Tourism

The Directorate of Tourism of MEW has recently commissioned a study into the development of tourism in the Kunene region. The project has only just started, and it is unlikely that any results will be available for input into the Möwe Bay Study. However, I would suggest that the study is requested to consider the implications of a port at Möwe Bay, and the associated infrastructure.

We currently have two opinions on the impact that the development would make on tourism in the area (and indeed nationally)

A NEGATIVE

- The development would destroy the "wilderness experience" of the whole region, and reduce the income from high volume speciality market.
- The increased urban population will cause environmental degradation in the surrounding areas (e.g. poaching, over grazing, water demands etc).
- Fish processing is ugly and smelly, and will reduce numbers visiting Möwe Bay town (and hence surrounding areas).
- There may be national implications for the tourist industry. The wilderness nature of the Skeleton Coast may attract tourists to Namibia who never get to this part of the country, but this attraction may decrease if the port is constructed.



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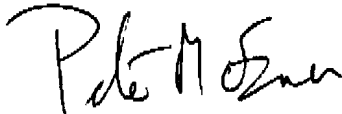
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B POSITIVE

- Ports, and any reasonable size urban developments, do attract tourists (the tourist industry at Lüderitz is developing quickly).
- Improved access will increase the "semi-wilderness" tourist, who can't afford the high costs at the top end of the market, and maybe needs 2-wheel drive access.
- A road from Möwe Bay to Opuwo would create a new circular route, which would benefit tourism in the northern area of Kunene.
- Improved infrastructure, and additional revenues, will improve protection of the environment (e.g. prevention of poaching).
- The development will leave the whole of the northern Skeleton Coast untouched, and with a single road inland. The opportunities for wilderness tourism will not be significantly reduced.

In our study we will be considering these issues, but a full assessment is beyond our Terms of Reference. We will be recommending that a full study on the impact on tourism is carried out before a final decision is reached. If this study (or at least a part) could be carried out within the current MET study then considerable economics could be achieved.

Yours faithfully



Peter McEwen

Cc: Directorate of Tourism - Mr Steven Brown
Directorate of Environmental Affairs - Mr Peter Tarr
B&P
EEAN
Gibb Reading