



Netherlands Commission for
Environmental Assessment

Seminar Series “Making EIA work for Zanzibar”

MAG14TZ1

REVOLUTIONARY GOVERNMENT OF ZANZIBAR



EIA: SHORE FRONT DEVELOPMENT PROJECTS

- ❖ Identify, describe and map feasible mitigation solutions.
- ❖ This should cover capital works as well as the operation and maintenance measures, where applicable.
- ❖ Need to come up with solutions which are environmentally acceptable and if possible also economically feasible



3 October 2016



Advisory Report by the NCEA

To the Netherlands Enterprise Agency (RVO,nl)
Attn Ms Rosalind Boschloo
CC Mr Sheha J. Mjaja, Ms Farhat Mbarouk (ZEMA)
From the Netherlands Commission for Environmental Assessment (NCEA)
Date 3 October 2016
Subject **Seminar Series “Making EIA work for Zanzibar”**

By: the Secretariat of the Netherlands Commission for Environmental Assessment – Ms Bobbi Schijf and Ms Ineke Steinhauer

Our reference B018/8013

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Seminar series “Making EIA work for Zanzibar”

30–31 August 2016, Unguja : Ocean View Hotel, Nyerere Conference room

1 September 2016, Pemba: Misali Beach Resort

Participants: Officials from MDA's, NGO's, Private sectors and EIA consultants

Objectives: To provide updates on EIA/SEA developments, including new regulation, and encourage good practice EIA

Day 1 – 30 August 2016, Unguja		
Time	Activity	Details
08:30 – 09:00	Registration	Participants list, Annex 1a
	<u>Opening session</u>	
09:00 – 09:30	<ul style="list-style-type: none"> Opening remarks PS Ministry of Lands, Water Energy and Environment (20 minutes) Group photo (10 minutes) 	In Swahili, Annex 2 Annex 3
09:30 – 10:00	<ul style="list-style-type: none"> Brief overview of NCEA/ZEMA co-operation project achievements Explanation of programme of seminar 	Presentation I, Annex 4
10:00–10:30	Tea & coffee break	
	<u>Technical plenary session on EIA</u>	
10:30 – 10:50	<ul style="list-style-type: none"> EIA in the context of sustainable development (Intro and objectives EIA) 	Presentation II, Annex 5
10:50 – 11:30	<ul style="list-style-type: none"> International trends in EIA 	Presentation III, Annex 6
11:30 – 11:50	<ul style="list-style-type: none"> EIA trends & practice in the Mainland, including case study 	Presentation IV and V, Annex 7 and 8
11:50 – 12:30	<ul style="list-style-type: none"> Questions and discussion 	
12:30 – 14:00	Lunch	
	<u>Technical plenary session on new EIA regulation</u>	
14:00 – 14:30	<ul style="list-style-type: none"> EIA procedures in Zanzibar 	Presentation VI, Annex 9
14.30 – 15:00	<ul style="list-style-type: none"> New environmental impact regulations 	Presentation VII, Annex 10
15.00 – 15:30	<ul style="list-style-type: none"> Discussion with participants 	
Day 2 – 31 August 2016, Unguja		
Time	Activity	Details
08:30 –09:00	Registration	Participants list, Annex 1b
	<u>Technical plenary session on SEA</u>	
09:00 – 10:00	<ul style="list-style-type: none"> Introduction to SEA 	Presentation VIII, Annex 11
10:00 – 11:30	<ul style="list-style-type: none"> SEA as applied to feeder road planning in Zanzibar, including Q&A 	Presentation IX, Annex 12
11:30–12:00	Tea & coffee break	
	<u>Thematic plenary session on waste management</u>	

Time	Activity	Details
12:00 – 13:00	<ul style="list-style-type: none"> Waste management in the context of EIA processes (trends in waste management, how to address this topic in EIA and what are relevant impacts and measures?) 	Presentation X, Annex 13
	<u>Thematic plenary session on oil and gas</u>	
13:00 – 13:30	<ul style="list-style-type: none"> EIA for oil and gas 	Presentation XI, Annex 14
13:30 – 14:00	<ul style="list-style-type: none"> Discussion with participants 	
14:00 – 14:30	Lunch	
	<u>Thematic plenary session on erosion and climate change</u>	
14:30 – 15:00	<ul style="list-style-type: none"> Coastal erosion/climate change and mitigation options in the context of EIA 	Presentation XII, Annex 15
15:00 – 15:15	<ul style="list-style-type: none"> Questions and discussion 	
	<u>Closing</u>	
15:15 – 15:30	<ul style="list-style-type: none"> Closing remarks 	

Day 3 – 1 September 2016, Pemba		
Time	Activity	Details
08:30 – 09:00	Registration	Participants list, Annex 1c
	<u>Opening session and introduction</u>	
09:00 – 09:40	<ul style="list-style-type: none"> Opening remarks by Officer in Charge Ministry of Lands, Water, Energy and Environment, followed by group photo 	In Swahili, Annex 2
09:45 – 10:00	<ul style="list-style-type: none"> Brief overview of NCEA/ZEMA co-operation project achievements 	Annex 4
10:00 – 10:15	<ul style="list-style-type: none"> EIA in the context of sustainable development 	Annex 5
10:15 – 10:30	<ul style="list-style-type: none"> International trends in EIA 	Annex 6
10:30 – 11:00	Tea & coffee break	
	<u>Technical plenary session on EIA</u>	
11:00 – 11:30	<ul style="list-style-type: none"> EIA trends and practice in Zanzibar (ZEMA), including new Environmental Act 	Annex 9
11:30 – 12:30	<ul style="list-style-type: none"> New Zanzibar EIA regulations 	Annex 16
12:30 – 13:00	Questions and discussion	
13:00 – 14:00	Lunch	
	<u>Thematic session: SEA</u>	
14:05 – 15:00	<ul style="list-style-type: none"> SEA as applied to feeder road planning in Zanzibar 	Annex 12
15:15 – 15:30	<u>Closing of seminar</u>	

Summary report by Mr Hamza Rijal, consultant

Day I presentations

I.	Building capacity for EIA and SEA in Zanzibar and SEA in Zanzibar, Ms Ineke Steinhauer
II.	Introduction to EIA, DG ZEMA Mr Sheha J. Mjaja
III.	International trends in EIA, Ms Ineke Steinhauer
IV.	Environmental Impact Assessment and Environmental Audit in Tanzania mainland, Ms Fadhillah Khatib
V.	Balancing Conservation and development issues: The Case of Lower Kihansi Hydropower Plant and the Kihansi Spray Toad, Ms Fadhillah Khatib
VI.	EIA Process in Zanzibar, Ms Farhat Mbarouk
VII.	New Zanzibar EIA Regulation, Ms Saada Said

Presentation I: Building capacity for EIA and SEA in Zanzibar and SEA in Zanzibar

Ms Ineke Steinhauer began her presentation by explaining how cooperation between NCEA and ZEMA was initiated. The visit to the Netherlands by the President of Zanzibar launched door of cooperation between the Government of Netherlands and Government of Zanzibar. The NCEA was selected to assist Zanzibar in the area of EIA and SEA. There were 6 activities chosen to be put into operation for a period of 2 years. The presentation stressed the importance of EIA and SEA in scaling down magnitudes of environmental impacts.

Ms Ineke Steinhauer explained that ZEMA and relevant stakeholders are required to be well equipped in so far as task for development of oil and gas sector is concerned because of potential environmental challenges! In January 2014 the NCEA discussed with key partners how to classify needs and areas to be supported which later enabled concerned parties to put together a proposal consisting of 6 project activities to be implemented within a two year period.

On February 2015 workshop for SEA was carried out comprising 15 high level personnel and 25 technical staffs. The trainers were Rob Verheem and Ineke Steinhauer from NCEA. From August to September 2015 the assistance programme for Zanzibar continued its task with development of drafting new EIA regulation which focus on financing mechanism and screening. By April 2016 draft for EIA regulation was finalized. Later in June 2016 NCEA experts met with ZEMA staff to evaluate feedback received from consultation on the new EIA regulations.

Presentation II: Introduction EIA

The DG ZEMA made the second presentation by defining and reasoning why ZEMA is being introduced despite the existence of DoE.

In his remarks the DG ZEMA explained how EIA reports specified impact and benefit in society by careful management of environment. He said it is an instrument by which we identify and assess potential environmental, social and health impacts of a proposed project. It also evaluates alternatives and designs appropriate environmental and social management plans during life-cycle of the project. He told participants that EIA is not a new programme in Zanzibar. It has been in practice since 1992. Mr Mjaja asked seminar participants to be actively involved in EIA practice. Seemingly in the eyes of those involved in development issues EIA is considered as regressive instrument to growth. He insisted that in practice EIA

actually makes it possible for projects to avoid adverse environmental, economic and social impacts.

The question of who should be involved in EIA was duly addressed and 5 stages were presented to tackle the issue. It was made clear as to what steps need to be taken in EIA process and how best to implement a project by adhering to EIA recommendations. Mr Mjaja concluded his presentation by remarking on the necessity of each project to incorporate EIA process from the outset because such an approach is often more effective and sustainable.

Discussion and Q&A

Six questions were asked for two presentations, one for Ms Ineke Steinhauer and the others are targeted to DG ZEMA.

Questions:

- Is EIA considered for mega projects only?

Respond:

DG ZEMA reminds the participants that in EIA process the first step is screening which determines whether EIA is obligatory or not, he further elaborates that sometimes EIA is not required, however there are some impacts that maybe arise, therefore the proponent will be required to produce an Environmental report and submit to ZEMA.

- When environmental damage occurs are there any specifications in the Environmental Act to fine responsible project proponent?
- Companies which are involved in any project if they violate what action is taken?

Respond:

DG ZEMA responds in this question and explains that in the Environmental Act of 2013 PART XVII is chapter on Offences and Penalties Clause 71, 72 and 73. A person who fails to comply with what has been in the Environmental Management Plan commits an offence and upon conviction shall be liable to a fine or imprisonment.

- Does EIA take into account both short and long term impacts of a project? If yes how?

Respond: The role of EIS report is to foresee both long term and short terms impacts and find the alternatives and draw mitigation measures, if the EIS report revealed that there are adverse impacts and long term impacts, than during the review process the review team will reject and disapprove the project.

- Participant from Zanzibar Marine Authority is not sure whether projects which are operating on marine if EIA is obligatory, he cited the Mtoni Marine project which is the first of its kind in the East Africa whereby huge land is reclaimed.

Respond: DG ZEMA explained that for that particular project EIA was done and during Review, a member from Marine Authority was among the reviewers and the project was approved, he further insists that members of review time should be considerate during review and if they have concerns they should raise those during the review, otherwise their approval is not being disqualified after review meeting.

- Bungi road is under construction and a number of trees are fallen, EIS report failed to draw alternatives and mitigation measures?

Respond: DG ZEMA responds that by explaining that what is going on at the moment for road development is done according to what has been directed in EIS report there is no any violation.

Presentation III: International trends in EIA by Ms Ineke Steinhauer

Ms Ineke Steinhauer began her address by highlighting 5 important terminologies – namely EIA, ESIA, IA and SEA. She then addressed the issue of effective development strategy for EIA in the matter under discussion. She pointed to three requirements for such a strategy, namely, dialogue, practical information and sharing between stakeholders and decision makers.

Ms Steinhauer stressed that it was not enough to have reports on EIA that were only kept on bookshelves. By involving stakeholders in dialogue it is reasonable to assume that they will have a better understanding of their role and will be easier to influence policy makers to either or not support proposed mega projects.

The EIA system and its functions should be put to practice extensively for better EIA, opined Ms Ineke Steinhauer. At the same time, she added, Regulatory framework was required to be in place to ensure there were no violations. Moreover, Ms Steinhauer advised that every step taken within the framework of EIA should be done according to existing legal system and she explained the importance of practical awareness in setting up environmental management outline/agenda. She proposed that when EIA is developed it should be in the public domain and part and parcel of national political agenda. She cited an example of efficient working relationship between Cameroon and Uganda, two African countries, whose collaborative experience in the area of EIA and SEA should be emulated by the two union entities

Ms Steinhauer cited a few African case studies illustrating compliance of EIA in practice. It was commendable that some of African countries had earlier introduced EIA subject matter in their institution of higher learning e.g. at Makerere College in Uganda EIA is taught at undergraduate level. She said that by doing so it makes possible to have more knowledgeable experts on EIA in future. Furthermore, she added, it was important to introduce a helpdesk for participating country which was accessible to all and also to have adequate monitoring of EIA implementation. Ms Steinhauer gave some examples from countries where EIA regulation was improved and developed. She said Uganda was developing SEA regulations and exchanged experience with other African countries while Rwanda, on its part, was currently working on SEA for IWRM and update EIA/SEA provision.

Presentation IV: Environmental Impact Assessment and Environmental Audit in Tanzania Mainland by Dr. Fadhila Khatibu

There exists close collaboration between ZEMA and National Environmental Management Council (NEMC). When NEMC was established it had a broad mandate to respond to environmental management issues and also implementation of the resolutions of the Stockholm Conference (1972) which called upon all nations to establish and strengthen national environmental councils that would advise their respective governments and the international community on environmental issues.

Dr. Fadhilah Khatibu from NEMC was invited by ZEMA to share working experience related to areas of EIA and SEA. It was noted in her remarks that environment issue was not a Union matter. However Zanzibar Is and Tanzania mainland do share several things pertaining to environmental issues and ZEMA DG is certified board member of NEMC.

During her presentation on Environmental Impact Assessment and Environmental Audit in Tanzania Mainland Ms Khatibu demonstrated some similarities and differences between mainland and Zanzibar strategic approaches to the issue under discussion. She noted that in the Mainland there were high fees for EIA. She gave the example of petrol stations where for any to operate it would be required to pay 10 million Tanzanian Shillings to NEMC which is contrary to Zanzibar's rules and regulations on the matter. According to the presentation it was disclosed that NEMC was receiving over 100 EIA applications a month with few staff. Because of insufficient number of staff to process the applications delays become a norm. According to the EIA and Audit Regulation of 2005 nine steps need to be carried out in EIA. NEMC has undertaken responsibility of screening exercise as well as preparing what is referred as scoping report with Terms of References (ToR). Ms Khatibu said that the EIA in the Mainland is signed by the Minister while in Zanzibar it is the DG-ZEMA's responsibility. Also it was noted that the Minister has power to either approve or disapprove the EIS within 30 days after its review.

In case of Auditing of all projects prior to the EMA Cap 191 coming into force those concerned have obligation to carry out EA.

The SEA Regulation for Oil and Gas is already in place for Tanzania mainland in contrast to Zanzibar.

Undoubtedly, added Ms Khatibu, the two union entities are faced with a number of challenges in their endeavor which require collaborative sharing of experience to be effective.

Presentation V: The case of Lower Kihansi Hydropower Plant and Kihansi Spray Toad, Dr. Fadhilah Khatibu

For this case study Dr. Fadhilah tried to show how conservationists and politician can reach compromise after each side managed to weigh in matters of economic gains, environmental protection and social values related to a project.

Dr. Fadhilah stated that the Tanzanian Government planned to construct hydroelectric power at Kihansi, a very sensitive biological diversity hotspot. The reason engineers selected this spot was because of its potential for generating huge amount of power in fall of few drops. According to Dr. Fadhilah the projected plant would be capable to generate up to 300MW of power. In their estimation 1 cubic meter of water could generate 7MW while in contrast to other hydro-electric plants that generate power with 1.1 cubic meters to 1.5 cubic meters of water.

During the evaluation of the proposed project several endemic species were discovered in the area e.g. wild coffee, Kihansi Spray Toad (KST) and later some butterfly species. The population of KST was observed to be in decline. The EIA report drew special attention to this fact of existence of very small ecological range which was only 4 square meter.

Finally the two sides have reached a compromise leading to outlining concise mitigation measures to meet potential challenges. In fact this case study illustrates one of best practices of EIA which did not obstruct development project. With EIA developers would get a chance to implement projects without damaging environment and be guided on sustainability of their endeavor without financial collapse.

Discussion and Q&A for presentation III, IV and V

Questions:

- Why does Mainland charge exorbitant fees?

Responds: Dr. Fadhila said that if fees are low than it will be chaos, everyone will present their projects which would be cumbersome to deal with them, but by setting exorbitant fees help to get true investors.

- Why does NEMC in the Mainland not recruit new staff to ease work situation due to submission of many EIS reports while having insufficient staff?

Responds: issue of recruiting new staff is out of their reach, they have submitted their request to Ministry of Planning and Manpower they have their own system of employing civil servants, however at the moment the incumbent government of Dr. John P. Magfuli has stopped process of new staff recruitment till further notice.

- Is it possible to predict long term impact of environment from oil and gas exploration? If yes how is it done?

Responds: oil and gas has number of challenges both environmental and social, clear assessment and analysis are required to be considered pre approval of the project, by doing so it will be possible to predict long term and short terms impacts and draw mitigation measures.

- In what extent NEMC is collaborating with ZEMA?

Responds: environment is not union matters however Tanzania mainland and Zanzibar are working together on a number of issues relating with environment and DG ZEMA is board member of NEMC.

Tanzania is signatory of all conventions on environment therefore Zanzibar as part of the union they are involved on accepting or rejecting any conventions, and so far what has been agreed between two parties has not been not implemented on one side of the union.

Presentation VI: EIA Procedure in Zanzibar by Ms Farhat Mbarouk

Ms Farhat Mbarouk's presentation almost mirrored that of Tanzania mainland with discrepancy on timing only. She explained that EA process begins with simple registration to ZEMA. Following that procedure then screening exercise would take place to determine magnitude of the project and whether it would require EIA or not. If the response is in affirmative then ZEMA would be tasked to prepare a scoping report and thereafter issuing ToR. The applicant would then be required to select ZEMA's registered company to carry out

the study and submit final report for review. In such reporting we are informed that it would be DG who signs it and not the Minister as is practiced on the mainland.

According to Ms Mbarouk ZEMA was faced with scores of challenges. Here is a few listed – insufficient skilled personnel to review ESIA, lack of community awareness on issues related to EIA, weak law enforcement, inadequate environmental monitoring tools to ensure proper implementation of mitigation measures outlined in the EIA report et al.

Presentation VII: New Environmental Impacts Assessment Regulation by Ms Saada Said

The last presentation of first day of the seminar was by ZEMA's Legal Officer, Ms Saada Said. She said that in terms of environment issues Zanzibar was far ahead as since early 1990s it managed to develop Environmental Policy (1992) and Environmental Act (1996). Ms Saada explained that 1996 Act No 2 of Environment for Sustainable Development was replaced by new Environmental Management Act No. 3 of 2014. Such being the case, she added, ZEMA was obliged to amend Regulations made under the repealed Act. Subsequently the EIA Regulations were developed to cope with the new Act. The EIA Regulations were then divided into 13 Parts with 4 schedules forming 55 regulations.

Discussion and Q&A for presentation VI and VII

Questions:

- How many people who violate and disagreed with the EMP have convicted to the court of law?

Responds: I don't have the number but there are some who are charged fines by ZEMA and there are some who were fined in the high court.

- At what stage scoping is taking place?

Responds: usually immediately after screening the ZEMA is preparing Scoping report and issues ToR to the proponent to look for registered company to carried EIA.

Day II presentations

VIII.	Introduction to SEA, by Ms Ineke Steinhauer
IX.	SEA as applied to feeder road planning in Zanzibar, by Dr. Aboud Jumbe
X.	Waste Management in context of EIA processes, by Prof Mohamed Sheikh
XI.	Environmental impacts of oil and gas exploration, Ms Ineke Steinhauer
XII.	Coastal erosion/climate change and mitigation options in the context of EIA, by Dr. Johanna Shaghude

Presentation VIII: Introduction to SEA by Ms Ineke Steinhauer

This topic was presented by Ms Ineke an introduction to SEA, what is SEA? How it applied and when? How different countries applied SEA as planning process in different ways.

Presently SEA became obligatory in most developed countries.

Presentation IX: SEA as applied to feeder road planning in Zanzibar by Dr. Aboud Jumbe

Dr. Aboud has presented the first SEA done in Zanzibar which is about feeder roads for both Unguja and Pemba. There is reason that why SEA was not practice in Zanzibar previously, because it was not included in the Environmental Act of 1996, however in the new Act of

2015 in Section 48 it was included with statements as follows: Strategic Environmental Assessment shall be prepared for the implementation of policy, strategy, programme and planning in order to: improve environmental quality of the proposed programme, protect human health relevant to the proposed development plan, increase wise and sustainable use of natural resources for the intended programme, and enhance the precautionary principle for environmental management of the proposed plan. The SEA for feeder roads analyzed environmental, social, cultural issues for 12 feeder roads of Unguja and Pemba, team of experts from various institutions were involved under stewardship of a ZEMA expert who led the study.

Discussion and Q&A for presentation VIII and IX

Questions:

- What are the challenges facing on developing SEA report?

Responds: mostly manpower and budget constraints but the Zanzibar government has shown willingness to conduct SEA report in most crucial and sensitive areas.

- What are the differences between EIA and SEA?

Responds: Environmental impact assessment (EIA) is used to identify the environmental and social impacts of a proposed project prior to decision-making in order to predict environmental impacts at an early stage in project planning and design, while Strategic environmental assessment (SEA) is used at the policy, planning and programming levels.

- What is benefit of doing SEA?

Responds: SEA provides a means for systematically incorporating environmental, as well as social and economic, considerations into policies, plans, and programmes.

SEA facilitates consultation and public participation in the evaluation of environmental aspects of policy, plan, or programme formulation.

- Where SEA is applied to plans and programmes?

Responds: key stages for carrying out a SEA on the level of plans or programmes include establishing the context, undertaking the needed analysis with appropriate stakeholders, informing and influencing decision making, and monitoring and evaluation. SEA applied at the policy level requires a particular focus on the political, institutional and governance context underlying decision-making processes.

Presentation X : Waste Management in context of EIA processes by Prof Mohamed Sheikh

In this presentation Professor Mohamed Sheikh elucidate that one of main challenges of doing studies in Zanzibar is lack of baseline study, he collaborates with bachelor students to analyse gradients in water quality and primary production around Zanzibar occurrence and distribution of antifouling biocide Irgarol-1051 in coral reef ecosystems, microplastic distribution in marine Environment, TBT levels of molluscs in Zanzibar coastal waters. The highest levels of pollutants were discovered in Stone Town, they even found traces of heavy metals and Coliforms. In their studies they conclude that Island ecosystems are stressed with

waste material such as inorganic and organic matter, coliform bacteria and chemical pollution, need of proper monitoring is required and EIA processes should effectively include the impacts and mitigation of wastes in developmental projects.

Presentation XII: Coastal erosion/climate change and mitigation options in the context of EIA by Dr. Johanna Shaghude

The shoreline is a line which marks the boundary between the land on one side and the sea on the other side. This line (boundary) is always in a dynamic state sometimes moving towards the land (transgression) and sometimes moving towards the sea (regression). It is this dynamic nature of the shoreline which gives rise to the concept of "shoreline change". The changes can be seen over both short time scales (few years) and geological time scales (thousands or millions of years). The long-time scale of shoreline changes are generally controlled by the Earth's mean temperature, which is in turn controlled by the earth's orbital characteristics, particularly the Earth's eccentricity (the shape of the earth's orbit around the sun which has been changing from a nearly circular orbit to an elliptical orbit with a periodicity of about 100,000 years) as well as well as the earth's obliquity (variation of the earth's tilting (which has been changing from 21.1 degrees to 24.5 degrees from the true North, with a periodicity of about 41,000 years).

On the Geological time scale, Climate Change is a natural phenomenon. The earth had been experiencing cyclic periods characterized by warm and cooler periods (glacial and interglacial periods). The cooler and warmer epochs had been controlled by the concentration of carbon dioxide in the atmosphere which had been fluctuating to a maximum peak of 200 ppm. However, Human activities during the past ~200 years have increased CO₂ in the atmosphere by about the same amounts (with a peak of about 400 ppm) as naturally observed peaks occurring during glacial and interglacial periods. If the current trends continue without being unabated it is expected that the level of CO₂ in the atmosphere will reach to over 650 ppm by 2100.

Such changes will have serious consequences on the global weather pattern (and Zanzibar is not an exemption), as currently seen through monitoring of the trends in air and sea water temperature (which is generally rising), rainfall pattern (increasing or decreasing depending on geographic location, erratic rains), change in wind patterns and wave climate regime, sea level rise, increasing coastal erosion incidences etc. In Zanzibar, monitoring of atmospheric and oceanographic variables reveal that, both air and sea water temperatures are rising, wind speeds are increasing, waves are becoming stronger, coastal erosion incidences are increasing.

For most coastal stakeholders (especially Hotel developers) the response measures against coastal erosion in Tanzania Mainland and Zanzibar had been to install vertical sea walls and in some cases also groins. However, most of these responses have been done without any scientific backing and in most cases instead of minimizing the coastal erosion problems, they had either accelerated the problem or induced coastal erosion at adjacent beach sections.

Such concerns should therefore be considered in Environmental Impact assessment of shore front development projects; projects located on the shoreline or foreshore (e.g. construction of ports, marinas, breakwaters, jetties, bridges, under sea tunnels etc.).

Discussion and Q&A for presentation X and XII

Questions:

- Don't you think this process is occurring periodically?

Responds: although there are many natural causes of coastal erosion, most of the causes affecting coastal communities are due to human intervention in the transport processes along the coastlines and/or reductions in the supply of sand to the shorelines.

- What are the secondary factors of coastal erosion?

Responds: weathering and transport slope processes, slope hydrology, vegetation, cliff foot erosion, cliff foot sediment accumulation, resistance of cliff foot sediment to attrition and transport and human activities.

General comments

Participants demonstrated need of EIA to be incorporate for all mega and minor projects they suggest more people are required to be trained in this field. Corporation between Zanzibar and Tanzania mainland should be fortified and exchange of information should be done frequently. Participants show their concern on the quality of water for being highly polluted and they suggest further studies to be carried out to save the health of the people of Zanzibar.

They were pleased for learning that Zanzibar has managed to produce SEA for the first time, however they felt need of Zanzibar government to support ZEMA by allocating enough budget to enable them to conduct more SEA studies especially in the area of Oil and gas.

Summary report – Pemba

Day III presentations

- | | |
|------|--|
| I. | Building capacity for EIA and SEA in Zanzibar and SEA in Zanzibar, Ms Ineke Steinhauer |
| II. | EIA in the context of sustainable development by DG ZEMA, Mr Sheha Mjaja |
| III. | International trends in EIA, Ms Ineke Steinhauer |
| IV. | New Environment Act by DG ZEMA Mr Sheha Mjaja |
| V. | New Zanzibar EIA regulations by Dr. Aboud Jumbe |
| VI. | SEA as applied to feeder road planning in Zanzibar by Dr. Aboud Jumbe |

For Pemba there were only 3 facilitators with 6 topics which were presented. Dr. Jumbe presented the New Zanzibar EIA regulations instead of Saada Said. His presentation was different as compared to the former, he had managed to summarize the whole document and presented to the participants each part of the document, similarly he had managed to shorten his presentation on SEA as applied to feeder road planning in Zanzibar.

Discussion and Q&A for presentation I–VI

- What is the reason behind of not involving Forest staff in this programme?

Forest and natural resources people were fully involved in the tenure of this programme, however it would be not easy to have a larger number of foresters, the aim of this programme is to get the diversity through a number of participants from various institutions.

- Only handful institution are engaged in this problem especially in Pemba, is there is any reason for that?

There is not any marginalization, all Zanzibaris were treated equally; numbers of Pemba staff were involved in this programme during its term.

- Who is benefiting on environmental services?

Usually environmental services are paid for by those who conserve the environment, however in mega project such as road construction, housing scheme etc affected community are remunerated.

- It seems that ZEMA is stumbling block, they delay approving the EIS report and granting EIA certificate?

Very wrong notion, ZEMA is always trying to speed up the whole EIA process but most of investors are the ones who delay to comply with conditions imposed by ZEMA.

- Why it's taken more consideration on environmental *damage* than human welfare?

In order to attain sustainable development three scenarios should be taken equally, namely economy and benefit of the nation, environment and human welfare.

- Is there limitation on conducting EIA?

When the time elapses for a year or more without the EIA report being submitted, then a fresh ToR should be developed, the ToR issued shall not be valid indefinitely.

- Why it took too long to have SEA document while there are a number of EIA reports?

In the Environmental Act or Sustainable Development Act of 1996, SEA is not incorporated. However in the 2013 Environment Act there is a provision about SEA since SEA is crucial. We hope to have number of SEA reports due to government willingness to conserve environment.

Recommendations:

- I strongly recommend that in every EIS review Pemba representative should be invited, this will help to build the capacity.
- Manuals and Journals on EIA should be provided to Pemba staff and ZEMA team in Pemba, they should communicate with their counterpart in Unguja on matters pertaining with EIA thoroughly.
- Wherever Unguja staff such as Ms Farhat or Dr. Aboud or DG ZEMA visit Pemba they should set aside time to discuss with Pemba staff on EIA and SEA: this approach shall fill the existing gap.
- Once EIA regulation is ready should be circulated in all stakeholders for both Unguja and Pemba and Pemba staff should be made conversant with it and becomes ToT to the other staffs from various institutions.

Annex 1a: 30 August 2016, Ungaja

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Annex 1c: September 1, Pemba

ZANZIBAR ENVIRONMENTAL MANAGEMENT AUTHORITY				
EIA SEMINAR: MAKING EIA WORK FOR ZANZIBAR				
DATE: 1 st September, 2016			VENUE: PEMBA MISALI SUNSET- HOTEL	
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ZANZIBAR ENVIRONMENTAL MANAGEMENT AUTHORITY				
EIA SEMINAR: MAKING EIA WORK FOR ZANZIBAR				
DATE: 1 st September, 2016			VENUE: PEMBA MISALI SUNSET- HOTEL	
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ZANZIBAR ENVIRONMENTAL MANAGEMENT AUTHORITY

EIA SEMINAR: MAKING EIA WORK FOR ZANZIBAR

DATE: 1st September, 2016

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ZANZIBAR ENVIRONMENTAL MANAGEMENT AUTHORITY

EIA SEMINAR: MAKING EIA WORK FOR ZANZIBAR

DATE: 1st September, 2016

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Annex 2: Opening remarks

**HOTUBA YA UFUNGUZI YA KATIBU MKUU, WIZARA YA ARDHI, MAJI, NISHATI NA MAZINGIRA
ND. ALI KHALIL MIRZA KATIKA UFUNGUZI WA SEMINA YA WADAU YA KUONGEZA MWAMKO
WA TATHMINI YA ATHARI ZA KIMAZINGIRA (ENVIRONMENT IMPACT ASSESSMENTS-EIA),
ZANZIBAR, TANZANIA
UKUMBI WA MIKUTANO WA HOTELI YA OCEAN VIEW
TAREHE 30 - 31 AUGUST, 2016**

**Ndugu Mwenyekiti wa Semina,
Ndugu Mwakilishi kutoka Ubalizi wa Netherlands Nchini Tanzania,
Ndugu Mtaalamu kutoka Kamisheni ya Tathmini ya Athari za Kimazingira ya Netherlands
(The Netherlands Commission for Environmental Assessment),
Ndugu Waalikwa,
Mabibi na Mabwana.**

Asalaam Alaykum na Habari za Asubuhi

Awali ya yote napenda kuchukua fursa hii kumshukuru Mwenyezi Mungu kwa kutujaalia kuwa wazima na wenye afya njema na kutuwezesha kuhudhuria Semina hii kwa maendeleo endelevu ya Zanzibar. Pia napenda kutoa shukrani zangu za dhati kwa waandaaji wa semina hii kwa kunialika mimi kutoa nasaha za ufunguzi wa semina hii; hakika hii ni fursa adhimu kwangu.

Aidha, nachukua fursa hii kuwashukuru nyote kwa dhati kabisa kwa kuacha shughuli zenu nyingi na muhimu za kimaisha na badala yake mkahudhuria semina hii. Natambua kuwa mnayo majukumu mengi muhimu ya Kitaifa, lakini kwa kujua umuhimu wa suala zima la Tathmini za Athari za Kimazingira, mmeweza kutenga muda wenu adhimu ili kushiriki kwenye semina hii. Ushiriki wenu unaongeza hamasa katika harakati za Wizara yangu kupitia Mamlaka ya Usimamizi wa Mazingira Zanzibar yaani ZEMA za kuhakikisha kuwa Tathmini za Athari za Kimazingira zinafanywa kwa miradi yote husika inayoanzishwa hapa Zanzibar, nawashukuru sana.

Kwa namna ya kipekee naomba niwashukuru washiriki wote ambao wanatoka nje ya Tanzania hasa kutoka Netherlands Commission for Environmental Impact Assessment na wale wanaotoka Tanzania Bara, Baraza la Taifa na Hifadhi na Usimamizi wa Mazingira (NEMC) kwa kushiriki na kutoa mada kwenye semina hii, mchango na ushiriki wako huo ni muhimu na tunaathamini sana.

Ndugu Mwenyekiti

Nimefahamishwa kuwa Semina hii ni hitimisho la mashirikiano ya miaka miwili (2014 - 2016) baina ya Idara ya Mazingira/Mamlaka ya Usimamizi wa Mazingira Zanzibar na Kamisheni ya Tathmini za Athari za Mazingira Kamisheni ya Tathmini za Athari za Kimazingira ya nchi ya Netherlands juu ya mafunzo ya kujenga uwezo wa wadau wa Zanzibar juu ya Tathmini za Athari za Mazingira. Mafunzo ambayo yameendeshwa na Wataalamu wawili kutoka taasisi ya Kamisheni ya Tathmini za Athari za Kimazingira za Netherlands ambao ni Bibi. Ineke Steinhauer na Bibi. Bobbi Schijf chini ya ufadhi wa Serikali ya Uholanzi kupitia Taasisi hiyo. Kwa niaba ya Wizara yangu na Serikali ya Mapinduzi Zanzibar naomba shukurani za dhati kabisa kwa Serikali ya Netherlands na Kamisheni ya Tathmini za Athari za Kimazingira za Net-

herlands kwa msaada wao huo ambao umefanikisha mafunzo. Wizara yangu ipo tayari kuen-
deleza mashirikiano zaidi katika kuhakikisha kuwa wadau wote husika wa Zanzibar wana-
kuwa na uwezo na upeo mzuri na stahiki wa kushiriki kikamilifu katika mchakato wote wa
Tathmini za Athari za Kimazingira, Zanzibar. Aidha, nawashukuru pia Bibi Ineke na Bobbi
kwa kuendesha mafunzo hayo katika kipindi chote cha miaka miwili.

Ni faraja kuwa miongoni mwa mada zitakazowasilishwa kwenye semina hii ni juu ya utekele-
zaji wa mafunzo hayo ulivyofanyika; hivyo, naamini washiriki mtapata fursa ya kufahamu kwa
kina juu ya utekelezaji wa mafunzo hayo ulifanywa na pia mtaweza kutoa mapendekezo yenu
stahiki ya mafunzo hayo.

Ndugu Mwenyekiti

Kama inavyofahamika kuwa Tathmini ya Athari za Kimazingira ni miongoni wa nyenzo
muhimu za usimamizi wa mazingira zinazotumika Duniani. Tathimini hii inatumika kwa ajili
ya kuchambua athari za kimazingira na kijamii zinazoweza kujitokeza kwa kuanzishwa mi-
radi ya maendeleo na kiuchumi. Lengo kuu la Tathmini ya Athari za Kimazingira ni kupunguza
athari za kimazingira na kijamii kwa ajili ya kuiwezesha miradi husika kuwa endelevu na
yenye kutoa tija kwa kuzingatia hifadhi wa mazingira. Historia inaonyesha kuwa Nchi ya
mwanzo kuanza kutumia Tathmini ya Athari za Kimazingira ni Marekani katika mwaka wa
1967 na mwaka 1986 Benki ya Dunia iliingiza rasmi Tathmini ya Athari za Kimazingira
kwenye mchakato wa kupitisha maamuzi ya miradi inayofadhiliwa na Benki hiyo.

Kutokana na kuongezeka kwa haja ya kufanya Tathmini za Athari za Kimazingira Duniani
kulipelekea suala hili kuingizwa kwenye mjadala na makubaliano ya Mkutano wa Umoja wa
Maitifa na Mazingira na Maendeleo uliofanyika Rio de Janeiro mwaka 1992. Azimio namba 17
na Makubaliano ya Mkutano huo linazungumzia suala la Tathmini za Athari za Kimazingira
ambayo imetakiwa kufanywa na Nchi zote Dunia kwa miradi yote ambayo itakuwa na athari
mbaya kwa mazingira. Aidha, kwa mnasaba huo mwaka 1998, Jumuiya ya Ulaya ilizitaka Nchi
wananchama wa Jumuiya hiyo kuanza kutumia Tathmini hiyo kwenye miradi mbalimbali ya
nchi wanachama. Hivi sasa Tathmini ya Athari za Kimazingira imekuwa ikitumika katika nchi
zote duniani ili kupunguza athari mbaya za kimazingira na kijamii.

Ndugu Mwenyekiti,

Kwa hapa Zanzibar Tathmini ya mwanzo ya Athari ya Kimazingira ilifanyika mwaka 1992 na
hivi sasa matumizi ya Tathmini hiyo yanaongezeka siku hadi siku. Katika kipindi cha mwaka
2010/11 - 2014/15, Jumla ya Tathmini 71 za Athari za Kimazingira zimefanywa na kutolewa
vyeti vya mazingira kwa miradi husika. Aidha, kwa mwaka wa 2015/2016, jumla ya miradi
25 imefanyiwa Tathmini za Kimazingira na kupewa vyeti vya kimazingira na miradi **18**
imefanyiwa ukaguzi wa kimazingira na kupewa vyeti vya ukaguzi huo. Kwa kuzingatia uku-
bwa wa Zanzibar takwimu hizo zinaonyesha kiwango kizuri na kinatia moyo juu ya kuzingatia
masula ya mazingira kwenye miradi ya maendeleo na uchumi.

Tathmini ya Athari za Kimazingira Zanzibar hivi sasa inasimamiwa na Mamlaka ya Usimamizi
wa Mazingira (ZEMA) kwa kufuata Sera ya Mazingira (2013), Sheria ya Usimamizi wa Mazi-
ngira Zanzibar (2015), Kanuni ya Tathmini ya Athari za Kimazingira (2002) pamoja na muon-
gozo unaonyesha utaratibu wa kufanya Tathmini ya athari za Kimazingira. Kimsingi utekele-
zaji mzuri wa Tathmini za Athari za Kimazingira unahitaji ushiriki wa wadau mbalimbali
wanaoguswa na mradi husika. Kutokana na hali hiyo ni wazi kuwa suala la kujenga uwezo wa

wadau hao ni jambo muhimu hasa kwenye sekta ya uchimbaji wa mafuta na gesi inayotarajiwa kuanza hivi karibuni.

Ndugu Mwenyekiti,

Ujumbe wa semina hii ni *'Making EIA work for Zanzibar'*, ni ukweli usiofichika kuwa na hasa tukizingatia mazingira halisi ya Zanzibar pamoja na shughuli za maendeleo na uchumi zinazoongezeka siku hadi siku, ni wazi kuwa tunapaswa kuhakikisha kuwa nyenzo ya Tathmini ya Athari kwa Mazingira inatekelezwa ipasavyo kwa faida kichumi, kimazingira na kijamii kwa kizazi cha leo na kijacho. Ni imani yangu kuwa Tathmini hii ni muhimu zaidi kwenye uchumi wa Zanzibar unaotegemea kuingiza masuala ya utafutaji na ikiwezekana uchimbaji wa mafuta na gesi asilia. Sote kwa pamoja tunapaswa kuzingatia kuwa maendeleo endelevu yanapatikana pamoja na mambo mengine kwa kuhusisha ipasavyo masuala ya mazingira kwenye maendeleo hayo. Hivyo, ushiriki wa kila mmoja wenu kwenye semina hii ni muhimu kwa mustakbali wa maendeleo endelevu ya Zanzibar. Ni matumaini yangu kuwa washiriki wote mtashiriki kikamilifu katika semina hii na kutoa mchango yenu adhimu.

Ndugu Mwenyekiti,

Naomba nirudi shukurani zangu za dhati kwenu washiriki wote kwa kukubali mwaliko wetu na kwa Kamisheni ya Tathmini za Athari za kimazingira Ya Netherlands na ZEMA kwa kwa mashirikiano yao ya kuratibu semina hii na kuhakikisha washiriki wote wanapata uelewa juu ya Tathmini ya Athari za Kimazingira ili kuifanya Tathmini hiyo kutekelezwa ipasavyo hapa Zanzibar.

Baada ya kusema hayo, kwa heshima na taadhima, napenda sasa kutamka rasmi kuwa Semina ya siku mbili kwa wadau ya kuongeza mwamko wa tathmini ya athari za kimazingira (environment impact assessments-eia), Zanzibar imefunguliwa rasmi.

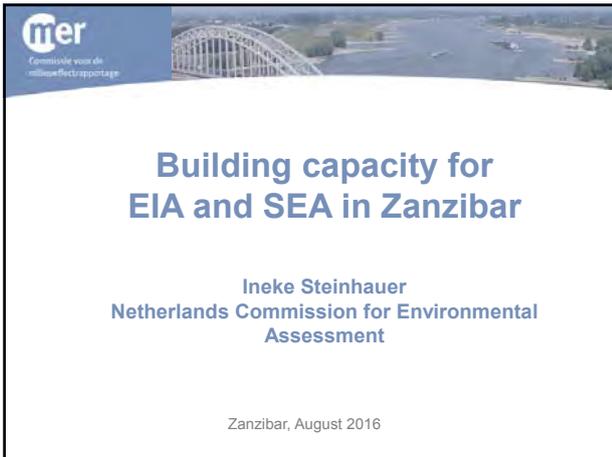
Nakushukuruni na Ahsanteni sana kwa kunisikiliza.

Annex 3: Group photo



Annexes 4 to 16: Presentations held at seminar series “Making EIA work for Zanzibar”

Annex 4: Building capacity for EIA and SEA Zanzibar



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Commissie voor de milieueffectrapportage

Building capacity for EIA and SEA in Zanzibar

Ineke Steinhauer
Netherlands Commission for Environmental Assessment

Zanzibar, August 2016

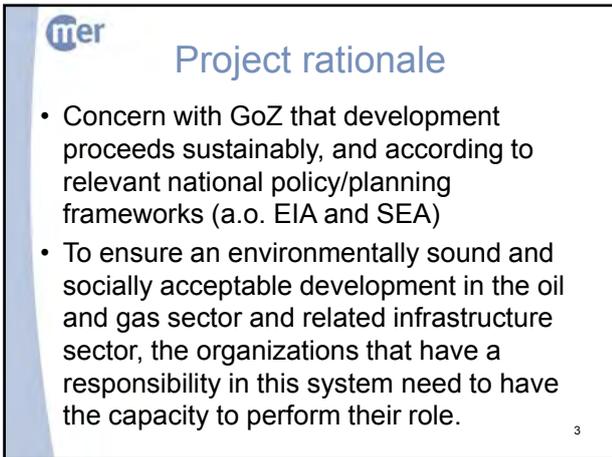


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Context and Dutch involvement

- With the onset of the oil and gas sector in Zanzibar there lie some challenges ahead
- On strategic & project based planning incl:
 - the development of port facilities
 - the introduction of tax regimes
 - mechanisms for revenue management
- During a visit to the Netherlands, the President of Zanzibar (Sept. '13) asked to support with Dutch expertise

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Project rationale

- Concern with GoZ that development proceeds sustainably, and according to relevant national policy/planning frameworks (a.o. EIA and SEA)
- To ensure an environmentally sound and socially acceptable development in the oil and gas sector and related infrastructure sector, the organizations that have a responsibility in this system need to have the capacity to perform their role.

3



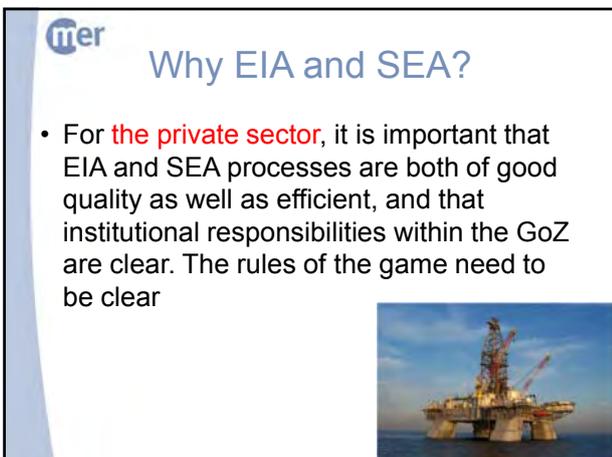
mer

Relevant organizations

- Department of Environment → ZEMA
- Ministry of Lands, Housing, Water and Energy (regarding oil and gas)
- Ministry of Infrastructure and Communication (regarding port development)
- ZIPA
- NPC



4



mer

Why EIA and SEA?

- For **the private sector**, it is important that EIA and SEA processes are both of good quality as well as efficient, and that institutional responsibilities within the GoZ are clear. The rules of the game need to be clear



mer

Why EIA and SEA?

- Simultaneously, it is **Netherlands Government's** policy to ensure that any cooperation activity, including economic activities of Dutch private sector, contributes to sustainable development with due attention for environmental and social impacts.



Why EIA and SEA?

- When GoZ stakeholders are well prepared and equipped, this will give the GoZ the possibility to steer and guide development

Very relevant, as the economy of Zanzibar depends to a great extent on its natural resources, which are important for tourism & fisheries.



Involvement of NCEA

- NCEA has been invited to assist with EIA/SEA capacity building
- In January 2014, the NCEA discussed with key partners in Zanzibar on EIA and SEA to identify needs and priorities for support
- Result: project proposal, consisting of 6 project-activities to be developed in a time frame of two years.

EIA & SEA in the Netherlands

- Legislation introduced in the 80s
- NCEA is independent, has legal basis and is involved in all EIAs/SEAs in the Neth.
- Advice on ToR for, and reviews of, environmental assessments of plans, programs and projects, to competent authorities (about 200/year)
- NCEA does not elaborate EIAs/SEAs

NCEA's international work

Since 1993:

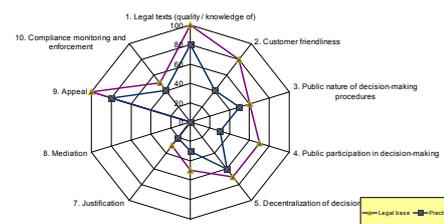
- Advice on ToR for, and reviews of, environmental assessments of plans, programmes and projects
- Capacity development of systems and institutions to improve the environmental assessment practice
- Knowledge and learning resources on environmental assessment www.eia.nl

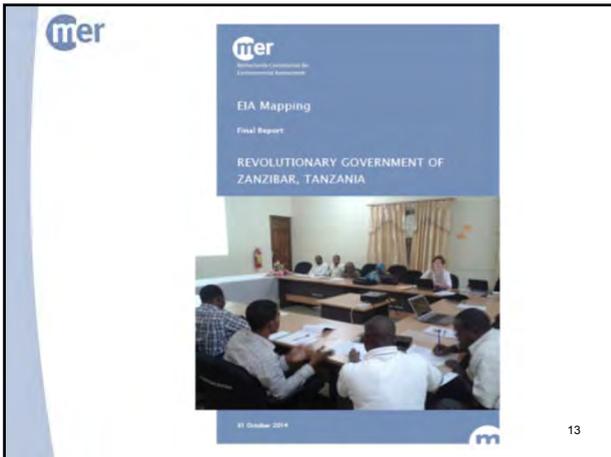
Start of project

- Project approval: May 2014
- First activity: 'Mapping workshop' of Zanzibar EIA practice
 - quickly generates information on the strengths and weaknesses of the EIA/SEA system and can thus add to confirm that the right project-activities were selected to improve practice
 - helps in awareness raising on EIA/SEA amongst important stakeholders, but also and even of DoE staff

Results

- 7 priority issues, greatly overlapping with already identified activities





13



mer Oct. 2014, 3 activities

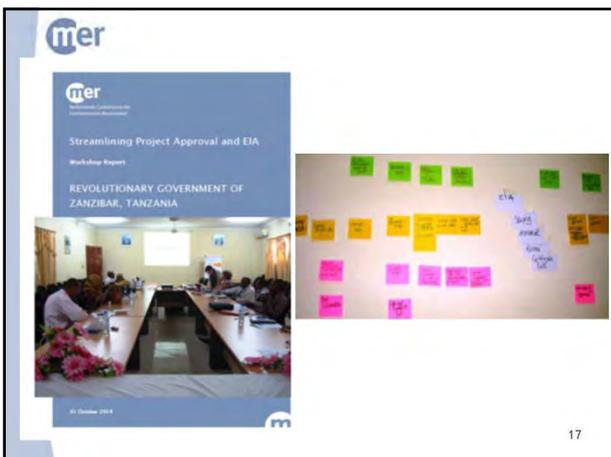
- 1) Streamlining EIA and other project approvals
- 2) New regulatory framework for EIA
- 3) EIA review workshop

15

mer 1) Streamlining

- Representatives of different agencies mapped out various approval processes, to assess where EIA fits in, where co-ordination can be improved and doubling up of assessment tasks can be avoided.

16



17

mer 2) Regulatory framework

- The new regulatory framework for EIA, both the articles on EIA in the new Environmental Management Act (June 2014). Also, the draft EIA regulation (2012) was discussed in a work session with DoE staff.

18



Report on EIA Regulation Work Session of 14th October 2014

REVOLUTIONARY GOVERNMENT OF ZANZIBAR, TANZANIA




19



3) EIA review

- 3-Day workshop on the basics and practice of EIA review with the Zanzibar multi-stakeholder review team, using an EIA report submitted to the DoE as a pilot

20



EIA Review Workshop Zanzibar of 15-17 October 2014

Review Report, MA22/4221

REVOLUTIONARY GOVERNMENT OF ZANZIBAR, TANZANIA



Average scores given by the review committee

Review area	Score
Review area 1: Description of the development, local environment and baseline conditions	85%
Review area 2: Identification and evaluation of key impacts	81%
Review area 3: Alternatives, mitigation and compensation	88%
Review area 4: Participation and communication of the results	85%
Total score average of the four review areas	85%

21



SEA workshop Feb. 2015

REFERENCE	EXPLANATION	OBSERVATION
Date:	9-13 February 2015	
Place:	Maru Maru and ASSP Hall	DoE: logistics and budget
Number of participants:	15 high level, 25 technical staff	
Participants profile:	The workshop is targeted at decision makers/top level staff of ministries from different sectors: energy, environment, national planning, land use, tourism, agriculture, fisheries etc. Representatives from private sector (ZIPA) are invited as well as NGO and academics (SUZA).	
day 1 high level:		The workshop is then continued with technical ministerial staff responsible for SEA and is meant to enable them to prepare for, coordinate the execution and manage the overall process of SEA and its embedding in decision making.
day 2-5 technical part:		
Trainers on behalf of NCEA	Rob Verheem and Ineke Steinhauer	

22



Report on Workshop on Strategic Environmental Assessment, 9-13 February 2015

REVOLUTIONARY GOVERNMENT OF ZANZIBAR

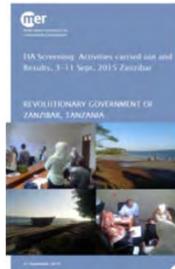



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August-Sept. 2015

- Drafting new EIA regulations with focus on financing mechanisms and screening

24

mer February 2016

- Continued work on EIA regulations
- 3 day workshop Public Participation in EIA



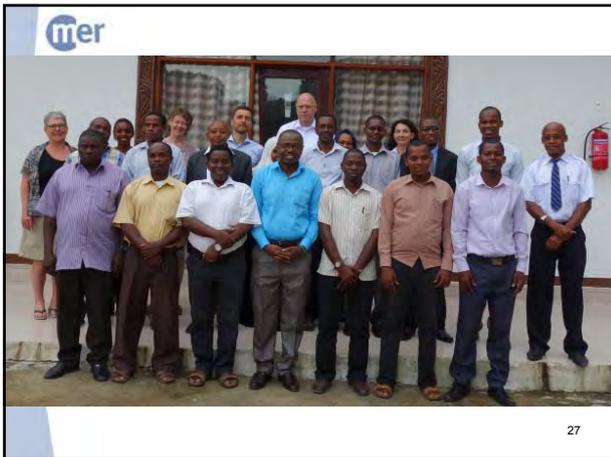


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mer April 2016

- Finalization of EIA regulations
- Participation in 2 day workshop organized by Oil for Development Program to assess needs and topics for environmental collaboration between Norway (Norwegian Environmental Agency/National Coastal Administration) and Zanzibar (ZEMA and Zanzibar Maritime Authority)
- Preparation of final awareness raising seminar as last project activity.

26



mer June 2016

- NCEA visited Zanzibar again, with the aim to go over the feedback received from a consultation on the new ESIA regulation that DoE held on June 20/21st.
- The second purpose was to assist in the details of the preparation for the EIA awareness raising event planned for August/Sept.

28



mer Results?




Annex 5: Introduction to EIA

EIA SENSITIZATION WORKSHOP

- Introduction to EIA

BY Sheha Mjaja Juma
30 – 31 August, 2016

1

PRESENTATION OUTLINE

1. INTRODUCTION
2. KEY DEFINITION
3. TRENDS IN EIA DEVELOPMENT
4. DEFINITIONS AND PURPOSE OF EIA
5. THE PURPOSE OF EIA
6. BENEFITS OF EIA
7. WHO IS INVOLVED IN EIA
8. STEPS IN THE EIA PROCESS

2

1. Introduction

- ☞ The environment is the backbone of the economy, the resource of livelihood as well as source of national wealth.
- ☞ The security of these livelihoods is dependent on the sustainable management and development of a country's resource base.
- ☞ As the pressure for industrialization, urbanization, tourism and use of the resource base increases, the need for resources to be managed in a prudent manner become inevitable.
- ☞ One of the tools for doing this is environmental impact assessment (EIA).

3

2. Key definition

- ☞ **The Environment** - is a whole set of natural (bio-physical) and man-made (socio- cultural) systems in which man and other organisms live, work and interact.
- ☞ **Sustainable Development** - is defined as development that meets the needs of today's generation without compromising those of the future generations.

4

Cont....

- ☞ **Environmental Management Tools (EMT)** - tools for effective management of the environment for sustainable socio-economic development include:
 - Environmental Policies,
 - Environmental Legislation,
 - Environmental Standards,
 - Environmental Auditing,
 - Cleaner Technologies,
 - Environmental Monitoring,
 - Environmental Economics and
 - **Environmental Impact Assessment.**

5

3. Trends in EIA Development

- ☞ 1970 NEPA of USA came into effect and directed all developments to be accompanied with EIA.
- ☞ Since then EIA has spread widely.
- ☞ 1985: The European Union adapted a directive on EIA for all the member countries to develop and implement formal legal system of EA.
- ☞ Some countries such as UK and Sweden have linked EIA to the country's planning system.
- ☞ Many countries in Africa adopted EIA rather late – in the 1980s.

6

Cont.....

- Principle 17 of the Rio Declaration states that:
 - “Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority” (UNCED, 1992).
- EIA has evolved over a very long time and it is now:
 - Accepted in many countries, international organizations and financial institutions.

Cont....

- Considered as a tool for minimizing problems and maximizing benefits associated with development projects.
- A tool that can facilitate the involvement of the public and win their support.
- EIA is currently gaining momentum in many of the African Countries.

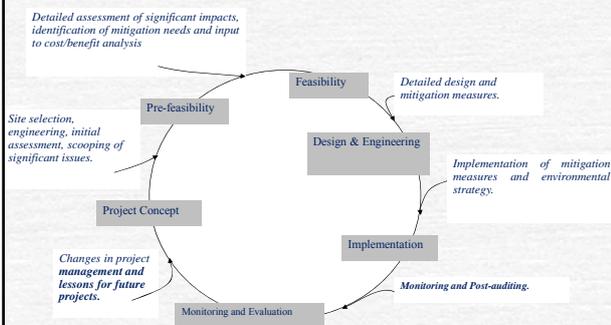
4. Definitions and purpose of EIA

- EIA is a process that aims to:
 - identify, predict and evaluate impacts, both positive and negative,
 - consider project alternatives and mitigation measures,
 - optimize positive impacts – enhancement
- It should be seen as:
 - A continuous and integral part of the project planning process,

Cont....

- As a tool to improve decision making,
- A tool to help achieve sustainable and equitable development.
- An important point to note is that EIA is not anti development, it is a tool for better development.**

EIA in the project cycle – is done at the beginning of the project





13

5. The purpose of EIA

- ☞ The purpose of EIA is to:
 - ensure that development proposal, activities and programmes are environmentally sound and sustainable.
 - minimize or prevent adverse effects and at the same time help countries to capture the real potential of the resource, and
 - maximizing the benefits of proposed developments.

14

Cont....

- improve long-term viability of projects
- helps to avoid mistakes that can be expensive and damaging in environmental, social and economic terms.
- used for early warning planning of a wide range of resource use, development and conservation initiatives in order to make the most out of the options for achieving sustainability.
- Thus, the use of EIA to choose the best project alternatives or options can help in the achievement of sustainable development.

15

6. Benefits of EIA

- ☞ There are both direct and indirect benefits of EIA. Key benefits include the following:
 - Avoiding Conflicts and Increasing Project Acceptance.
 - Integrating Short-Term Needs with Long-Term Goals.
 - Addressing Trans boundary Issues.

16

Cont....

- Improving Project Design and Reducing Capital and Operating Costs (i.e. saves shillings).
- Improving Institutional Co-ordination.
- Considering Alternative Projects and Designs.
- Improving Accountability and Transparency in Planning and Decision-Making.

17

7. Who is involved in EIA (Actors)

- ☞ The actors involved in the EIA process can be grouped into 5 main groups. These are:
 - i. **Project Proponents**
 - ☞ These are developers who initiate project ideas/proposals. They can be private individuals or public institutions, government departments etc.
 - ☞ They are responsible for commissioning and/or conducting environmental impact assessment with or without assistance of consultants and incurring all costs related to EIA.

18

Cont.....

ii. Service Providers

- These are experts or consultants/firms who are responsible for carrying out detailed holistic and interdisciplinary studies, exploiting their multidisciplinary skills Professions.

iii. Stakeholders or the Public

- These are affected and interested groups that are either directly affected or influenced by the project undertaking.
- They can be local people in the project area, government departments or agencies, non-government organisations, research & academia, donors, general public, etc.

Cont.....

iv. Reviewers

- These are impartial and independent group, authority/agency responsible for quality control.
- Evaluating the strength and weakness of impact statements and their adequacy for decision-making, based on scientific and objective judgement.

v. Responsible institution (Decision-maker)

- Determining level of environmental assessment required, approve terms of references for impact studies.
- Ultimate decision-makers, responsible for issuing an EIA certificate based on the recommendations of the reviewers.

8. Steps in the EIA Process

- Registration,
- Screening,
- Scoping,
- Impact prediction and evaluation,
- Environmental Impact Statement (EIS),
- Review and Decision Making,
- Decommissioning

Cont.....

- Registration** - the proponent is required to register his activity by submitting dully filled in special application form together with a proposal concept to assess whether or not EIA is required.
- Screening** - this is the classification stage to determine the level at which EIA will be carried out. In making the decision whether full, preliminary or no EIA is required.
- Scoping** - if the classification indicates that a full EIA is required, then identification of main issues of concern through scoping will be done by consulting all the relevant concerned parties.
- Draft terms of references will then be prepared to guide the impact assessment study.

Cont.....

- Impact Assessment** - The preparation of EIA study follows after approval of ToR, to identify likely impacts, assess and evaluate their severity and magnitude and proposed mitigation measures to minimise potential negative impacts and enhance positive benefits.
- Preparation of an EIA report** - includes an environmental management plan as well as a monitoring plan that outlines monitoring and management of anticipated impacts, especially those, which affect local communities.
- Public consultation is mandatory when conducting an EIA and at a minimum the proponent must meet key stakeholders to solicit their views.

Cont.....

- Impact Assessment** - The preparation of EIA study follows after approval of ToR, to identify likely impacts, assess and evaluate their severity and magnitude and proposed mitigation measures to minimise potential negative impacts and enhance positive benefits.
- Review** - Once the proponent has submitted an ESIA report (or EIS), the Technical Review Committee (TRC) will undertake a review process.
- Prior to TRC meeting a site visit is conducted to verify information provided in the EIS report.

Cont.....

- ✔ **Impact Assessment** - The preparation of EIA study follows after approval of ToR, to identify likely impacts, assess and evaluate their severity and magnitude and proposed mitigation measures to minimise potential negative impacts and enhance positive benefits.
- ✔ **Review** – Once the proponent has submitted an EIA report (or EIS), the Technical Review Committee (TRC) will undertake a review process.
- ✔ Prior to TRC meeting a site visit is conducted to verify information provided in the EIS report.

25

Cont.....

- ✔ **Public hearing** - as part of the review process may be necessary whenever a strong public concern over the undertaking has been raised and impact are far reaching.
- ✔ Other critical factors that may necessitate public hearing are sensitivity of the site location, type and scale of project, technology used, multiple land use considerations, project impacts and any other factors related to a particular project.
- ✔ **Environmental decision-making** - The outcome of the review could be “EIS acceptance” and the proponent will be served with a provisional environmental permit (PEP) together with terms and conditions of approval or could be “EIS rejection”.

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Cont.....

- ✔ **Project implementation** – this is to be conducted according to the terms and conditions of approval guided by the environmental management plans.
- ✔ **Monitoring and auditing** – both the proponent and the government have the responsibility to undertake monitoring.
- ✔ Monitoring include the verification of impacts, adherence to approve plans, mitigation measures and general compliance of terms and conditions.
- ✔ Environmental audits should be undertaken to provide feedback on the EIA process and effectiveness of the management plan.

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9. Policy and Legal Framework for EIA in Zanzibar

- ✔ EIA is guided by Environmental Policy of 2013;
- ✔ Statement 15 of the Policy states that ***“The Government will ensure incorporation of environmental assessment into procedures for designing and implementing development programs, plans, policies and projects”***.

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Cont....

- ✔ EIA is a legal mandatory.
- ✔ The Zanzibar Environmental Management Act, 2015 is the umbrella legislation for environment.
- ✔ The Act makes ample reference to long-term conservation, management and sustainable use of natural resources.
- ✔ Part nine of the Act describes requirements for Environmental and social Impact Assessment in Zanzibar.

29

Cont....

- ✔ **Section 39.(1)** stated that
- ✔ “A person shall not carry out or cause to be carry out; any activity which is likely to have significant impact on the environment and society without Environmental Impact Assessment Certificate issued by the Authority under this Act.”
- ✔ (2) Subject to subsection(1) of the section Environmental Impact Assessment shall be carried out before construction phase of any activity.

30

Cont....

- ☞ (3) The Minister may make Regulations for the Environmental Impact Assessment process.
- ☞ (4) A person who contravenes the provision of this Section commits an offence and upon conviction shall be liable to a fine of not less than ten million shillings and not exceeding twenty millions shillings or imprisonment for a term of not less than five years and not exceeding ten years or both such fine and imprisonment.

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4. Conclusion

- ☞ It is widely accepted that projects which incorporate EIA at early stages of project development tend to be more effective and are often sustainable and social accepted.
- ☞ This is because environmental and social impacts are predicted, analyzed and mitigation measures and alternatives are highlighted at early stage of the project development.
- ☞ EIA in Zanzibar like any other areas worldwide is a legal process for any activity which is likely to have significant impact on the environment and society .
- ☞ Therefore, any stakeholder of development of Zanzibar needs to ensure EIA is properly working for sustainability and maximizing the benefit of the project.

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**THANK YOU VERY MUCH
AHSANTE SANA**

Annex 6: International trends in EIA



Commissie voor de milieueffectrapportage



International trends in EIA

Ineke Steinhauer
Netherlands Commission for
Environmental Assessment

Zanzibar August September 2016



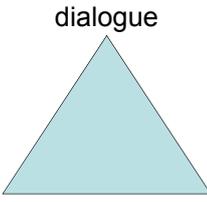
Terminology?

- Environmental Impact Assessment (EIA)
- Environmental and social impact assessment (ESIA)
- Integrated assessment (IA)
- Strategic environmental assessment (SEA)

2



Development of effectiveness



dialogue

information influence



'EIA systems' thinking

For effective EIA, we need to take into view:

- **System level:** we look at key functions that should be fulfilled within a system to enable good practice EIA.
- **Organisational level:** is about the capacities of actors that have a role in the EIA system.
- **Process level:** we look at how individual EIA processes are undertaken.

7

Better EIA systems?

- An EIA system as a coherent set of 'functions' that are necessary for effective EIA practice.
- The system can be considered to be improved, when one or more of these functions have been strengthened.

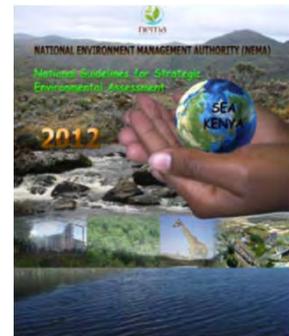
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EIA system (six functions)



1: Regulatory framework

- EIA regulation is in place?
- EIA regulation is of sufficient quality?
- EIA guidance exists, is widely accessible, and of sufficient quality?



10

2: Awareness & commitment

- Sufficient budget allocated for EIA?
- EIA given attention in the public domain?
- EIA is on the political agenda?
- Sufficient level of interest and participation in EIA related events (seminars)
- Recognizable, accepted, and effective leadership on EIA



11

3: Education & professional training

- EIA education available?
- EIA education of good quality?
- Professional training available?



College of Agricultural and
Environmental Sciences
MAKERERE UNIVERSITY

12

4: Advice on EIA

- Helpdesk for EIA established, accessible and used?
- Helpdesk effective in influencing practice?



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5: Monitoring implementation

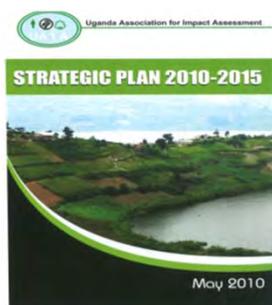
- Adequate monitoring of EIA implementation takes place
- Monitoring leads to EIA improvement



14

6: Professional exchange

- Professional exchange platform is established and operational
- Platform promotes good practice?

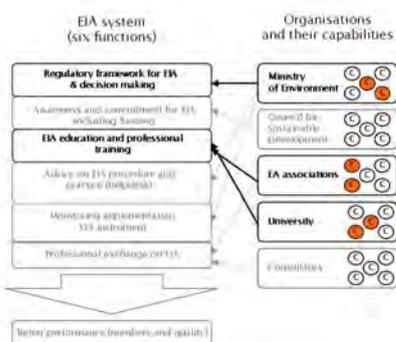


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More EIA capacity

- It is essential for the effectiveness of an EIA system that the organizations that have a responsibility in this system have the capacity to perform the role they have.

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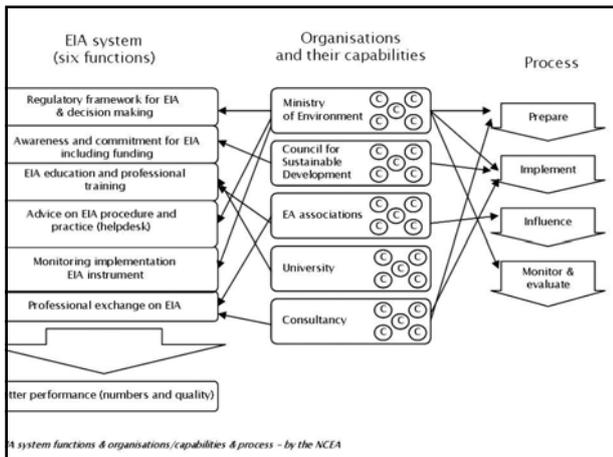


Relation between EIA system functions & organisations/capabilities - by the NEA

Better EIA processes

- Together the EIA organisations identified have the capacity both to run an effective EIA system, and to deliver effective EIA processes.

18



mer Example from Uganda

- NEMA: Currently working on updating of their EIA regulations (from 1998): new issues → more attention for PP, and introduction of biodiversity offsets and PES
- Introducing SEA regulation
- Very active association UAIA, regular training
- Professional exchange with e.g. Cameroon on extractives
- First experiences with SEA (Albertine Graben)

20

mer Example from Rwanda

- Currently working on SEA for IWRM
- Capacity development of EIA association
 - e.g. strengthening the EIA procedure through decentralisation, improving EIA practice through the operationalisation of an EIA information system and improving compliance and enforcement, strengthening of EIA capacities of members, development of EIA curricula, and the promotion of SEA as an important tool for sustainable development.
- REMA starts working on update of EIA/SEA provisions in environmental law
- New Partner: Rwanda Development Board

21

mer Example from Mozambique

- Also updated their EIA regulation recently (dec. 2015), now working on several 'diplomas', e.g. Cat. A+
- Some big SEAs: for coastal zone and for the Zambezi river

22

mer Example from Ghana

- Very advanced on EIA, however, still new activities (e.g. coal fired power station)
- SEA experience: >25, lately mainly SEA for oil and gas (offshore & onshore)
- Discussion on whether to make separate SEA regulation
- AKOBEN once EIA is finished: the environmental performance of mining and manufacturing operations is assessed using a five-color rating scheme.

23

Annex 7: Environmental Impact Assessment and Environmental Audit in Tanzania Mainland



ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL AUDIT IN TANZANIA MAINLAND

Dr. Fadhila H. A. Khatibu and Rose Gervas

Environmental Management

- In Tanzania mainland Environmental Management issues are covered under the Environmental Management Act (EMA) Cap 191
- A number of Regulations have also been formulated based on the need (S 230) – so far we have 16! (required: more than 100!)
- For Environmental Impact Assessment and Environmental Audit procedures, these have been defined under the Environmental Impact and Audit Regulations (2005), made under Sections 82(1) and 230(2-h,q) of EMA

SEA and EIA

- Strategic Environmental Assessment (SEA) is carried out prior to implementation of plans, policies and programmes (eg, large scale housing projects, oil and gas programmes, coastal developments, ports.....)
- Environmental Impact Assessment (EIA) is conducted for individual projects (a multi- storey house, commercial complex, milk processing factory.....)

EIA defined

- Is a systematic examination conducted to determine whether or not an activity or a project will have any adverse impacts on the environment
- The process extends from the initial design stage through implementation to completion, and where appropriate decommissioning

Environmental Impact Assessment

- **Section 81** of the **Environmental Management Act Cap 191** requires all Developers of projects identified in the 3rd Schedule of the Act and detailed in the 1st Schedule of the **EIA and Audit Regulations of 2005**, to undertake EIA.
- **Section 81(2)** of EMA Cap 181 requires that the EIA be carried out **prior to the commencement or financing of the project**.

Basics.....

- EIA applies to all investment projects (government and private) identified in the Act and its Regulations
- It is a planning tool to help in the decision making
- Does not hinder development but rather an environmental safeguard
- In Tz mainland, it can only be conducted by Registered EIA/EA experts or Firms

9 Steps for carrying out the EIA, as per the **EIA and Audit Regulations of 2005**

• **Step 1: REGISTRATION**

- Register the proposed project with NEMC,
- Submit an application for the EIA certificate by filling EIA Registration Form.
- The Registration Form is submitted along with the Project brief

Environmental Experts fill in registration form and prepare the project brief on behalf of the developer as required by Regulation 6(3)

Step 2: SCREENING

- The Project brief is **screened** by NEMC Officers.

Screening report is approved by the Council within 45 days from the date of submission of the brief as per Regulation 10(1).

- If no significant negative impacts on the environment, recommend to the Minister - Reg. 10(2)
- If the project shall have significant impacts on the environment - undertake EIA

Step 3: SCOPING

- An Environmental Expert/EIA Consultant prepares a Scoping Report and Terms of Reference (TORs) for conducting the Environmental Impact Assessment (EIA) and submits them to NEMC for review and approval before the commencement of the EIA study.

TORs are approved by the Council within 14 days as per Regulation 3(2).

Step 4: ENVIRONMENTAL ASSESSMENT

Conduct EIA study as per the approved TORs (EMA Cap. 191 and The EIA and Audit Regulations, 2005).

Time taken to carry out EIA study depends on the type and complexity of the individual project.

Step 5: REVIEW

Submit an Environmental Impact Statement (EIS) to NEMC for **review** by a Cross-sectoral Technical Advisory Committee (TAC);

Prior to the review by TAC, representatives of the TAC may visit the proposed site for verification and stakeholder consultations

The Council shall, within 60 days following submission of EIS carry out its review as per Section 87(1) of EMA Cap. 191.

Step 6: RECOMMENDATIONS OF THE TAC

The Consultant will improve the EIS by incorporating all comments raised by the TAC.

• **Step 7: SUBMISSION TO THE MINISTER FOR ENVIRONMENT**

The Consultant will **submit** the improved (final) EIS to NEMC for final scrutiny. **NEMC** will forward recommendations to the Minister.

Step 8: APPROVAL OF THE EIS

Upon signing of the Certificate by the Minister, it will be brought back to NEMC for collection by the Developer.

The Minister may approve or disapprove the EIS within 30 days as per Section 92(1) of EMA Cap. 191.

• Step 9: ISSUANCE OF CERTIFICATE

The signed EIA Certificate will be **attached** with the General and Specific conditions that must be adhered to by the Developer.

Regular monitoring will be carried out to ensure that the specified conditions are followed.

2. Environmental Audit (EA)

Section 46 (1,2) of the **EIA and Audit Regulations of 2005** requires all ongoing projects identified in the 1st Schedule of the Regulations, that have commenced prior to the **EMA Cap 191** coming into force, to carry out an initial EA.

Initial Environmental Audit will help the Developer to set baseline information on the key environmental issues surrounding his project.

8 key steps to be followed when carrying out Environmental Audit.

Step 1: REGISTRATION and submission of Project brief

Step 2: APPROVAL OF TERMS OF REFERENCE

Step 3: ENVIRONMENTAL ASSESSMENT (Audit)

Step 4: REVIEW

Step 5: RECOMMENDATIONS OF THE TAC
The Developer may be requested to improve the situation on the ground following recommendations by the TAC.

Step 6: SUBMISSION TO THE MINISTER FOR ENVIRONMENT

Step 7: APPROVAL OF THE EA REPORT

Step 8: ISSUANCE OF CERTIFICATE

Regular monitoring will be carried out to ensure that the specified conditions are followed.

Worth noting:

S 81(3) of EMA:

- A permit or licence for carrying out any project or undertaking in accordance with any written law shall not entitle the Proponent or Developer to undertake or cause to be undertaken a project or activity without the EIA certificate issued under this Act.

S 81(4) of EMA:

- Anyone who contravenes S81 (3) commits an offence.

S 184 of EMA: Any person who:

- a) Fails to submit a project brief.....
- b) Fails to prepare an EIA report as required under any provision of the Act
- c) Fraudulently makes a false statement on EIA report submitted under this Act

Commits an offence and is liable on conviction to a fine of not less than 500,000/- but not exceeding 10 million shillings or to imprisonment of a term of not less than 2 years but not exceeding 7 years, or both.

Other key issues

1. Public hearing may be called for if the project is of wider public or trans-boundary concern (Rufiji prawn farming, Lake Natron, Serengeti.....)

About the EIA certificate

- The certificate is valid for 3 years, or until the end of project life
- During the completion of the project, the certificate must be surrendered to NEMC
- If a company changes ownership: apply for transfer
- If the project changes its scope: apply for variation

Certificate.....

- The Minister may disapprove the EIS and hence not issue a certificate to the proponent (EMA S 92-b, 93)
- The EIA Certificate can be cancelled by the Minister if there is noncompliance EMA S 100(2)
- Anyone who is aggrieved by the Minister's decision may appeal to the Environmental Appeals Tribunal

Success

- An increasing number of projects carry out EIAs and EAs
- Some Financing Institutions do not provide loans to investment projects that do not have EIA certificates
- Some important decisions are made to projects that have been implemented in sensitive areas (Kihansi, DART, Hotels in national parks....)

- In 2015 NEMC has registered more than 1500 projects
- Between January – July 2016 NEMC has registered 942 projects for EIA/EA
- Average number of projects per month - 120

EIA files everywhere!



<u>Year</u>	<u>EIA/EA certificates issued</u>	<u>Registered EIA/EA Experts</u>	<u>Registered EIA/EA Firms</u>
2005	5		
2006	13		
2007	13		
2008	39		
2009	112	63	
2010	149	70	21
2011	158	161	35
2012	290	104	26
2013	385	166	29
2014	359	189	48
2015	695	108	25
Jan - July, 2016	730	139	26
	2,948	1,000	210

Challenges

- The number of projects being registered has increased tremendously when compared with the staff who can take care of the projects
- Some Consultants provide false or incorrect information, hence site verification is important
- Time taken to complete the EIA process: minimum 145 days according to the EIA and Audit Regulations
- Monitoring projects that have been issued with certificates is an extremely daunting task.....

- Quality of EIAs..... Not so impressive!

Way forward

- Having a database to keep all records of certified projects is a must!!!!!!
- Use of checklists to try to reduce the time and improve efficiency.
- Trying to look for a way of getting paperless documentation may help (documents everywhere at the Council!)

THANK YOU!

Annex 8: The case of Lower Kihansi Hydropower Plant and Kihansi Spray Toad

BALANCING CONSERVATION AND DEVELOPMENT ISSUES:

THE CASE OF LOWER KIHANSI HYDROPOWER PLANT AND THE KIHANSI SPRAY TOAD

Dr. Fadhila H. A. Khatibu

Directorate of Environmental Planning and Research
NATIONAL ENVIRONMENT MANAGEMENT COUNCIL

Presentation outline

- Background
- Selection of Kihansi site for construction of hydropower plant
- Environmental assessments carried out and their outcomes
- Environmentalists' concern and Government action
- Economic analysis of bypass flow
- Achievements
- Challenges
- Lessons learned

Preamble

- This is the case of the Kihansi Hydropower Plant and the tiny Spray Toad, both in need of water from the Kihansi river
- Who won the 'contest for water' between TANESCO and the Conservationists representing the tiny toad?
- There were definitely a number of lessons that we learned from this case study!



Background information

- In 1993 the Government of Tanzania entered into agreement with several Banks to construct the hydropower plant at Kihansi at a cost of US\$ 275 million.
- This State of the Art Plant was expected to generate 300 MW
- Phase I (Lower Kihansi – 180MW) and Phase II (Upper Kihansi – 120 MW)

Where is Kihansi?

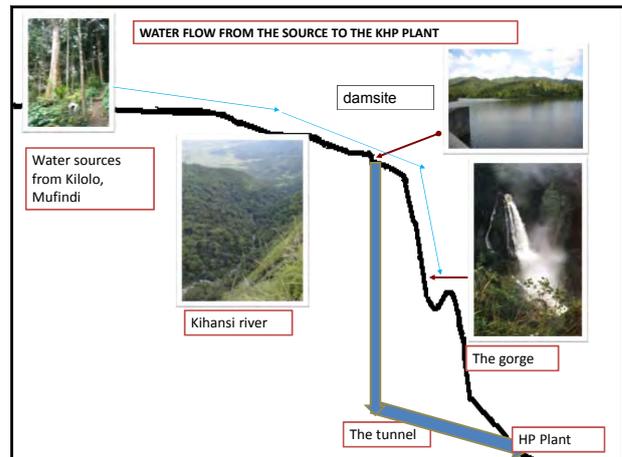
- Kihansi is located on the south-eastern part within the Udzungwa mountains
- The Udzungwas are among the 13 blocks that form the Eastern Arc Mountains
- The Udzungwa block, which is the largest in the EAM ranges, is among the 34 global biodiversity hotspots.
- There are a number of endemic species that cannot be found anywhere else in the world

- Google map



Why Kihansi?

- Kihansi was selected for construction of the HP because of more than 800m drop, thus making it the cheapest source of hydropower generated
- At Kihansi, 1 cubic meter of water generates 7 MW when compared with other hydropower plants that generate between 1.1 and 1.5 MW
- The plant also contributes more than 20% of electricity to the national grid



The Environmental assessments

- A total of 4 Environmental Assessments (EA) were carried out at different stages of this investment:
 1. 1990: Feasibility study of the Kihansi Hydroelectric Power conducted by the Japanese Electric Power Development Company
 2. 1991: EA of Kihansi Hydroelectric Project (Upper and Lower schemes) prepared by Ekono Energy
 3. 1992: EA report prepared by NORAD, which is a synthesis of EA reports prepared earlier
(HYDROPOWER CONSTRUCTION STARTS)
 4. 1994: TANESCO commissioned another EA report (prepared by NORPLAN/NORCONSULT)

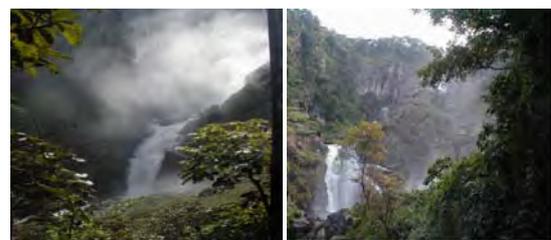
- The EIA that was carried out in 1991 did not carry on board downstream issues.
- Subsequent reports considered the status of Udzungwa Mountains and carried out detailed ecological assessments
- During these assessments, some endemic species were discovered :
 - (Wild coffee, Kihansi Spray Toad (KST), and later some species of butterfly)
- The KST drew special attention because so far it is the species with the smallest ecological range (only 4 sq km!)



What happened when the LKHP started operation?

- In 1999 the dam was commissioned and the KHP Plant started operation
- The flow of water to the gorge was reduced by more than 90% (from 16 m³/s to less than 2 m³/s, thus affecting the natural spray at the gorge
- This created ecological imbalance to the gorge and resulted in the population decline of some species eg, the Kihansi Spray Toad

Before and after the impoundment of water



16 cubic meters per second

1-2 cubic meters per second

The Environmentalists' concerns

- The discovery of KST, coupled with the significance attached to the Udzungwa Mountains, created a lot of discussion in the Conservation world (Friends of the Earth).
- Tanzania as a signatory to the Convention on Biological Diversity (CBD), Convention on International Trade of Endangered Species (CITES), Ramsar Convention and other Environmental Agreements, was bound to abide by these Conventions.
- It was therefore pertinent that this tiny toad (representing other endemic species) must be conserved at any cost *(it was either the toad or the hydropower plant!)*

Government takes action (short term)

- To address the conservation issues, the following steps were taken at different stages:
 - Long term Ecological Monitoring of Kihansi Gorge
 - Immediate Rescue and Emergency Measures
 - Formulation of Lower Kihansi Environmental Management Project

All these resulted in the production of scientific documents that helped in the decision making process.

Government takes action (long term)!

1. Installation of sprinklers and fountain jets to mimic the natural spray
2. Construction of walkways and bridges to facilitate access for monitoring of ecological indicators to the gorge
3. Updating of an Environmental Management Plan, with detailed ecological monitoring indicators and a monitoring plan
4. Enforcement of minimum bypass flow of 1.5 m³/s for the environment



Installation of sprinklers and fountain jets to mimic the natural spray leading to the restoration of the gorge habitat



Construction of bridges and walkways to support ecological monitoring activities

5. Translocation of 499 KSTs to US Zoos as a security measure against loss of the species in the wild. These were later reintroduced and are now being monitored
6. Preparation of Landscape Wide Conservation Plan
7. Support communities to start small projects that aimed at improving water flow and its quality and provide alternative livelihoods to cultivating in wetlands (vinyungu)



- Implementation of Landscape Wide Conservation Plan to improve on water flow and water quality (Community based conservation initiatives).

The issue of minimum bypass flow (Rufiji Basin/NEMC vs TANESCO)

- The initial proposal was to leave minimum bypass flow of 7 cubic meters/sec
- TANESCO contested the bypass flow and commented that if they left all that water for environment then there will be major financial impact on power generation and economic feasibility of the project.



- It is mandatory for TANESCO to leave the minimum bypass flow of 1.5 m³/s for the environment

And this was TANESCO's argument!

Bypass flow (cubic meters/sec)	% Loss of power	Reduced average production in the national grid
2	11%	4%
4	23%	8%
7	40%	13%

Consensus!

- It was agreed that flow manipulation studies be carried out to determine the minimum flow that was to be released for environment
- After careful studies a decision was reached to leave a minimum bypass flow of 1.5 cubic meters/sec for environment
- Rufiji Basin Water Office and NEMC was legally mandated to monitor the bypass flow

Reintroduction of Kihansi Spray Toad was a global event that is being monitored worldwide (**IT IS PART OF MITIGATION MEASURES**)



This confirms the country's commitment to biodiversity conservation



Cost –Benefit analysis

- **Does it pay to have mitigation measures in place?**
Let us take the case of Kihansi Hydropower Plant from the layman’s point of view:
 - Investment costs: US\$ 275 million
 - Mitigation costs: \$ 1 million annually
 - Revenues from hydropower generation (rough estimate):
180 MW x yy hours/day x xx days/years x Unit cost/MW= ?

What have we learned from this crisis?

- Some decisions that were made late during the project implementation brought about additional costs for mitigation
- Extreme care must be taken when designing development projects in fragile ecosystems
- Science based ‘weight of evidence’ is key to decision making when it comes to balancing development and conservation activities
- Multi-sectoral approach is required when making interventions
- Community involvement is key to sustainable development

Participants in the implementation of all these conservation measures

- Vice President’s Office (DoE, NEMC)
- Ministry of Natural Resources and Tourism
- Ministry of Water (Rufiji Basin Water Board)
- Local Government Authorities (Kilolo, Mufindi and Kilombero Districts)
- Ministry of Energy and Minerals (TANESCO),
- Research and Academic Institutions (UDSM, SUA, TAWIRI, TPRI, WCS – Bronx and Toledo Zoos)
- Communities in the riparian villages within the catchment

AND SO.....

who was the winner of the contest for water?

ASANTENI

Annex 9: EIA Procedure in Zanzibar

PRESENTATION ON THE *EIA PROCESS IN ZANZIBAR*

BY
FARHAT MBAROUK
ZANZIBAR ENVIRONMENTAL MANAGEMENT
AUTHORITY

1. Registration

- Registration is a simple administrative procedure, which requires project proponents to officially declare the intention to engage in a particular project.
- It is the first step in the EIA process.
- During registration the proponent or consultant fills in EIA registration form.
- The proponent shall pay a registration fee to the Institution as may be determined from time to time.

2. Screening

- Screening is the process of classifying a proposal to determine whether a proposed development should be subjected to impact assessment and the level of assessment that will be necessary.
- It is the first stage conducted in the impact assessment process after registration of a project proposal.
- Screening is ensuring that all projects with potential significant impacts are subjected to EIA
- Also avoid unnecessary expenses of conducting full EIA for projects that have no potential for significant adverse impacts

Outcome of Screening Process

- Screening statement will result one of the following:
 1. No Environmental Impact Assessment or Environmental Report is needed. Environmental Report is required, if the proposed activity has minor impacts on environment and society; or
 2. The proposed project has potential adverse impacts on environment and or social aspects thus **“Full EIA is required”** the investor should undertake detailed studies following appropriate and approved guidelines.
 3. The proposed project contradicts with existing national legislations or the adverse impacts can not be managed thus **“the project proposal is rejected”**.
 4. More information requested so as to undertaken further screening of the proposed project.

Screening Statement

- The contents of the screening statement will include the following:-
 - Project background
 - Methodology of the screening process used
 - Screening decision made with reasons
 - Recommendations on further actions.

3. Scoping

- Scoping is a process, which used to identify main concerns/ issues, alternatives, and likely impacts and data requirements.
- This is a consultative procedure that culminates in the determination of the extent and approach to an Impact Assessment study.
- Provide an opportunity for the proponent, his or her consultants, the relevant authorities, interested and affected parties in a project area to exchange information and express their views and concerns.

Cont...

- Focus the study on reasonable alternatives and relevant issues to ensure that the resulting Impact Assessment is useful to the decision-maker and address the concerns of interested and affected parties.
- To facilitate an efficient assessment process that saves time and resources and reduces costly delays, which could arise where consultation had not taken place.
- To determine the Terms of Reference (TOR) and boundaries of the EIA study.

4. ESIA Report

- **Impact Assessment** - The preparation of EIA study follows after approval of ToR, to identify likely impacts, assess and evaluate their severity and magnitude and proposed mitigation measures to minimise potential negative impacts and enhance positive benefits.
- **Preparation of an EIA report** - includes an environmental management plan as well as a monitoring plan that outlines monitoring and management of anticipated impacts, especially those, which affect local communities.
- Public consultation is mandatory when conducting an EIA and at a minimum the proponent must meet key stakeholders to solicit their views.

5. Review

- The main aim of review is to provide an evaluation of the strengths and weakness of assessment EIS.
- Reviewers assess the content, comprehensiveness and adequacy of reports, as well as the organizational and presentation qualities.
- The review also identifies the issues not covered, inaccuracies of information, problems with logic or any conflicts apparent in the assessment process.
- On the basis of the review, a decision is taken as to whether the proposal should be accepted or not.

Cont....

- The proponent shall submit 18 hard copies and a soft copy of respective report to the ZEMA
- In addition to the review guidelines, other relevant tools that aid the review process to arrive at a proper decision include:-
 - site verification visits and discussion with local officials and residents

Cont.....

Review team

- Review team consists of not less than 18 members from relevant institutions for the purpose of reviewing EIS.
- The review team will reach the consensus on discussion notes, and finally prepare review report together with terms and condition for the proposed project/activity.

Cont....

- **Review criteria of EIS**
- **There are four (4) main review areas as follows:**
 - Review area 1: Description of the development, local environment and baseline conditions (15 marks)
 - Review area 2: Identification and analysis of key impacts (30 marks)
 - Review area 3: Alternatives, mitigation, ESMP, EMP and Commitment (40 marks)
 - Review area 4: Stakeholders participation and Communication of results (15 marks)

Cont....

- The overall assessment of the EIS will be as follows:
 - A = (81% – 100 %) = Excellent, no task left incomplete
 - B = (71% – 80%) = Good, only minor omissions and inadequacies
 - C = (61% – 70%) = Satisfactory despite omissions and inadequacies
 - D = (51% –60%) = Parts are well attempted but must as a whole be considered just unsatisfactory because of omissions and/or inadequacies

13

Cont...

- E = (41% – 50 %) = Poor, significant omissions or inadequacies
- F = (<41%) = Very poor, important tasks poorly done or not attempted
- *Environmental clearance issued*
- *If overall performance is below C, then revision should be done*

14

6. Monitoring

- Monitoring is among the important factors for environmental management within the EIA context.
- It provides a mechanism for checking whether mitigation measures have been carried out and whether predictions were accurate.
- Monitoring therefore not only ensure that what has been stated within the EIS actually takes place, but also to ensure effective management of impacts.

15

Cont.....

- Monitoring is the responsibility of the institutions that are indicated in the Monitoring Plan with the Environmental Impact Assessment Report.
- The common institutions in Zanzibar that will be engaged to conduct Environmental Monitoring are
 - the Institution Responsible for Environment,
 - the responsible sector institutions based on the nature of the project,
 - project proponent,
 - NGOs/CBOs and
 - the concerned community at large.

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7.Environmental Audit

Environmental audits should be undertaken to provide feedback on the EIA process and effectiveness of the management plan
Based on section 46 (1) of the Act, If an activity requires an Environmental Audit

8. Decommissioning

- This is the end of the project life.
- The decommissioning report including restoration or rehabilitation activities shall be prepared by the proponent and submitted to the for record.

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4. Existing Challenges

The existing challenges of EIA implementation in Zanzibar are as follows:

- Inadequate enough skilled personnel to review the ESIA.
- Reluctance of project proponents to engage their project into EIA.
- Lack of community awareness in most issues related to EIA.
- Lack of Coordination between different sectors.
- Weak law enforcement
- Inadequate environmental monitoring tools to ensure proper implementation of mitigation measures outlined in the EIA report.

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Conclusion

- It is widely accepted that projects which incorporate EIA at early stages of project development tend to be more effective and are often sustainable and social accepted.
- This is because environmental and social impacts are predicted, analyzed and mitigation and alternatives are highlighted at early stage of the project development.
- Practically, the cost of an EIA study is less than 1% of total project costs and the economic benefits that EIA can bring are very significant.

20

THANK YOU

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Annex 10: New Environmental Impacts Assessment Regulation

PRESENTATION OF EIA REGULATIONS

Introduction

Following the repeal of the Environmental for sustainable development Act No. 2 of 1996 which has been replaced by new Act Environmental Management Act No. 3 of 2014, ZEMA is obliged to amend the Regulations made under the repealed Act. Therefore the EIA Regulations has been developed so as to cope with new Act. EIA Regulations has been divided in to 13 Parts, 4 schedules which forms 55 regulations

Cont...

- **PART I PRELIMINARY PROVISIONS**

- This Part is containing three regulations concerning with short title, Interpretation and application. The application Regulation is mainly explains the areas in which these regulations can be applied in the activities which either requires Environmental Impact Assessment, Environmental Report or an Environmental Audit.

Cont.....

- **PART II REGISTRATION OF ACTIVITY**

- This part explains about the registration of the activities and the requirements of the registration in which it is mainly the proponent is required to fill application form with non-refundable payment and submit to the a feasibility study for private investments in the format issued by the Zanzibar Investment Promotion Authority or a concept note for public investments in the format issued by the format issued by the Zanzibar Planning Commission.

Cont.....

- **PART III SCREENING OF THE ACTIVITY**

- In this part of the Regulations explains about the screening of the Activity in the feasibility study or concept note, objective of the screening in which it is to determine the level of environmental assessment required for the activity with the decision of the screening which may depends on the assessment carried on the activity and its validity time which is six months.
-
- **PART IV SCOPING**
- This part of the Regulations explain about the objectives of the scoping, Recognized experts or firms to conduct Scoping, Public Announcement of the start of the EIA process Approval of the Scoping Report, and the Contents of a Scoping Report.
-

Cont....

- **PART V PREPARATION OF THE EIA**

- In Part V of the EIA Regulation is about the Preparation of an EIA Report, contents and Submission of the EIA report which is within one year or extended time from the date of receiving of the approved TOR, Public access to the EIA report, Public hearing, Review meeting, Procedures for public hearing, Review of the EIA report, Outcome of the review meeting, Decision of the Authority, Procedures for public hearing.

Cont...

- **PART VI PREPARATION OF THE ENVIRONMENTAL REPORT**

- Part VI is concerning the Preparation of an Environmental Report, Contents of the Environmental Report, Submission of the Environmental Report which is within six month or any other extended time, Review of the Environmental Report in which in there is the requirement of the presence of Sheha or his representative, The expert or team leader of the Firm who conducted the study, The Proponent or his representative and Any other person if the Authority deems necessary, also this part includes the Decision on Environmental Report in which the Authority may decide either to issue an Environmental Clearance certificate with conditions, or not to issue the Environmental Clearance or to Request the proponent to provide additional information.

The decision shall be made in no more than ten working days from the date of submission of the report and payment the review fee.

Cont.....

- **PART VII MONITORING OF ACTIVITIES**
-
- Part VII of the Regulation is concerning with Self-monitoring in which the proponent is required to conduct self monitoring as one of the conditions of EIA Certificate, Monitoring of activities by the Authority, Authority monitoring report, Decision on monitoring results, Public request for monitoring.

Cont...

- **PART VIII ENVIRONMENTAL AUDIT**
-
- Part VIII is about Environmental Audit, Preparation of an environmental Audit Report, Content of pre Audit Report, Approval of the Terms of Reference for the Audit, Content of Environmental Audit Report, Submission of the Audit Report, Environmental Audit review meeting, Outcome of the Environmental Audit review meeting, Decision of the Authority on the Environmental Audit Report in making its decision the Authority may consider the conformity of the activity with existing environmental policies, legislation and standards and The feasibility and expected effectiveness of the mitigation measures proposed in the Environmental Report. And this part also includes Environmental Audit Certificate.
-

Cont....

- **PART IX**
- **DECOMMISSIONING OR CLOSURE**
- This Part is explaining on the Decommissioning or Closure plan in which the proponent with in ninety days prior to the closure is required to prepare closure plan and to submit it to the Authority. In this Part also there is section on Content of the decommissioning Report or closure plan and Approval of the decommissioning report or closure plan.
-

Cont...

- **PART X COMPLIANCE AND ENFORCEMENT**
-
- In this Part the Regulations explain about Offences and penalty relating to failure to implement management plan in which the penalty shall be fine of not less than one million and does not exceed five millions Tanzania Shillings or imprisonment of not less than five months and more than five years and to pay compensation to the third party and any other cost for restoration of the affected area to the Authority.
- Also there is an Offences relating to EIA certificate if the proponent fail to implement the conditions under EIA certificate the penalty shall be fine of not less than five hundred thousand Tanzania Shillings and more than four millions Tanzania Shillings or imprisonment of not less than two months and does not exceed four years. and to pay compensation to the third party and any other cost for restoration of the affected area to the Authority. And also there is a Procedure for stop order in which its validity time shall be ten working days from date of

Cont...

- **PART XI APPEAL**
- This Part is about the Appeal, if a person is not satisfied with the decision made by the Authority within twenty working days shall have a right to appeal to the Minister. And the appellant shall notify the Authority on that appeal within five working days in which the Minister shall make a decision based on the advice from the advisory committee up on which the appellant has right to appeal to the court of law.
-

Cont...

- **PART XII PUBLIC ACCESS TO INFORMATION UNDER THESE REGULATIONS**
-
- This Part is concerning the access to environmental information, if anyone is interested to environmental documents may consult the Authority with the payment of some fees as it shall be determined by the Authority.

Cont...

- **PART XIII MISCELLANEOUS PROVISIONS**
-
- This Part is about the Sale or change of the name of the company or firm shall submit a copy of such changes to the Authority in which shall bear the cost for such changes as it shall be determined by the Authority. This Part also includes power of the Minister to amend schedules, Prohibition on Authority staff and Repeal and savings.
-

Annex 11: Introduction to SEA

 Commissie voor de milieueffectrapportage



Strategic Environmental Assessment (SEA)

Ineke Steinhauer
Netherlands Commission for Environmental Assessment

Zanzibar August September 2016



What is SEA?

- We define SEA as a tool to bring stakeholders together **in a planning process**, to structure and feed their debate with the environmental (and social) consequences of strategic decisions.
- The definitions of a planning process (PPP) can be used in different ways in different countries, depending on the political and institutional context.

2



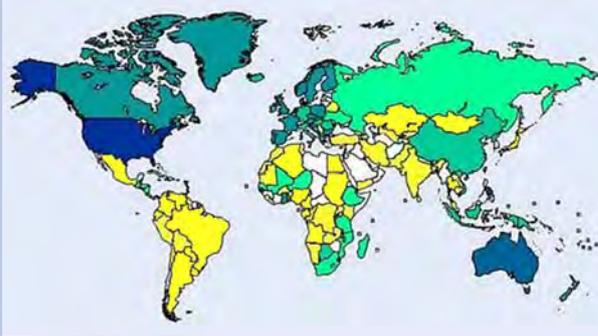
Aplicación de EAE

- SEA is applied broadly in various ways, in countries as different as The Netherlands, Canada, Nepal, Mozambique and Bolivia.
- Just like the goal of EIA is to get better projects, the goal of SEA is to have better **policies, plans and programs**, which can be new legislation, national development policies, but also sector plans and land use plans.

3



Current: legislation and SEA practice



4



State of the art in SEA

- Currently SEA is obligatory in the majority of developed countries, and also in a growing number of developing countries.
- Also there are countries that apply SEA on a voluntary basis, without having a legal basis.

5



State of the art in SEA

- Wide diversity and rapid development of tools and approaches, e.g. SEA vs. SESA
- Seen as important by many countries and institutions, such as World Bank, EU, UNEP
 - WB adopted SEA 2001, OP 8.01 2003
 - European Union adopted SEA directive 2004
 - OECD-DAC agreed in 2006 to apply SEA
 - CBD approved SEA guidelines at 8th COP, 2008



6

mer State of the art in SEA

International SEA agreements:

- EU SEA Directive: <http://ec.europa.eu/environment/eia/sea-support.htm>
- UNECE SEA protocol: http://www.unece.org/env/eia/sea_manual/links.html

SEA learning:

- SEA wiki by the UNU open university: http://sea.unu.edu/wiki/index.php/Main_Page
- SEA online course http://sea.unu.edu/course/?page_id=92
- SEA ITP course by SIDA/NIRAS, Sweden

Country practice:

- <http://www.sea-info.net/> Provides an overview of UK SEA practice
- Hong Kong SEA practice: <http://www.epd.gov.hk/epd/SEA/eng/index.html>
- Romanian SEA portal: <http://www.anpm.ro/content.aspx?id=55> (Includes SEA database)
- Macedonian SEA portal: <http://www.sea-info.mk/>

International organizations active in SEA:

- International Association for Impact Assessment (IAIA), <http://www.iaia.org/publications/>, links to best practice principles for SEA
- www.seataskteam.net OECD
- World Bank SEA toolkit with general as well as sectoral SEA guidance <http://go.worldbank.org/XIVZ1WFB80>
- (NCEA: Publications on SEA cases, country SEA profiles and more <http://www.eia.nl/default.asp?type=publications&lang=english>)

7

mer What is SEA?

- A tool to improve planning and decision making (not a separate process)
- Brings in steps that otherwise would be forgotten

8

mer Why is SEA used?

- SEA is a response to shortcomings in practice
- A good SEA helps:
 - In **raising commitment** (if plans are controversial)
 - To **find better alternatives** (if they exist)
 - **Not to make mistakes** (if they can be avoided)

9

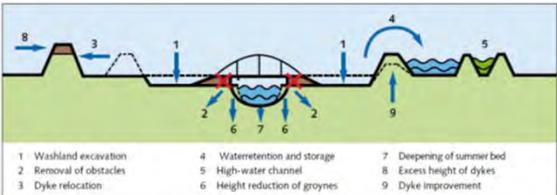
mer To raise commitment



10

mer To find the best alternative

Types of measures:



1 Washland excavation	4 Waterretention and storage	7 Deepening of summer bed
2 Removal of obstacles	5 High-water channel	8 Excess height of dykes
3 Dyke relocation	6 Height reduction of groynes	9 Dyke improvement

11

mer SEA to avoid mistakes



Argentina flood protection

- 50 flood protection projects in 3 river basins
- Cumulative effects of all projects in a river basin
- SEA showed: coordination of cities and agencies in a basin urgently needed

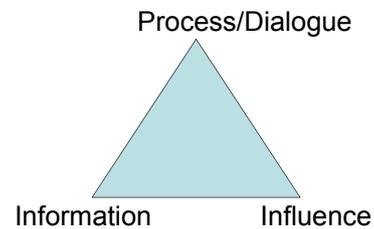
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What is SEA in summary?

- SEA *complements* planning with:
 - A solid **assessment** of environmental and other issues (**information**)
 - A well structured public & government **debate** on these issues (**process/dialogue**)
 - A **mechanism** to take the results of assessment and debate into account (**influence**)

13

Development of SEA



14

How to do SEA?

- Many forms and shapes
- Tailor made depending on context:
 - Abstract policy or concrete plan?
 - Three years or three months available?
 - Data availability?
 - Environment only, integrated or sustainability assessment?

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Which kind of decisions are taken with SEA

- **Why** plan something? (Refers to **the need and/or purpose**, long term objectives)
- **What** to plan? (Refers to **interventions, technologies and capacities**)
- **Where** to plan it? (Refers to **locations** of interventions)

16

What is strategic road transport planning?

Why do we need for more roads?
E.g. National transport policy

What kind of roads and **how much** roads?
E.g. national plan for highways

Where should new roads be built?
E.g. road program for a certain region/province

Project level: **How** to design/construct new roads?

Strategic planning and SEA

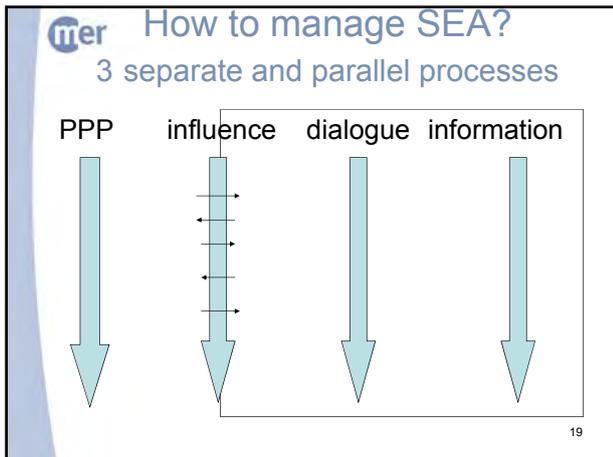
Purpose, need, objectives, standards (**SEA**)

Technology, capacity (**SEA**)

Location (**SEA**)

Design and construction (**EIA**)

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- mer** Proven advantages
- more attention for environmental consequences of PPPs, including sustainability issues
 - understanding sum of impacts of new PPP instead of individual impacts of a series of smaller projects resulting from the PPP
 - on project level no need for discussion about strategic choices (f.e. locations, technologies)
 - technical information in SEA gives project EIA's flying start
- 20

- mer** Summarizing
- A good SEA can help in:
 - Understand risks (and lower them)
 - Prevent conflicts
 - Find the best opportunities
 - Build stakeholder commitment
 - Do cheaper and more effective EIA
-
- 21

- mer** How is it different from EIA
- The process is non-linear and continuous
 - The assessment can include institutions
 - Focuses on cumulative impacts of many projects
 - Strategic decisions are different from project decisions
 - Aims to prevent rather than mitigate
 - Government pays
- 22

1.4. SEA: Definition.

- A process oriented tool involving people to integrate environmental issues into development and decision-making process
- A tool made for adaptation towards sustainable planning.
- An instrument to support a good environmental governance.
- A tool to integrate environment and development issues into the feasibility studies
- It may be also be legal requirement for other countries for all development plans to undergo SEA screening before integrated into the planning modes.

2. ZANZIBAR ENVIRONMENT POLICY 2013

Section 4.6.14. of the Policy: Environmental Assessment.

Issues:

- There are increasing number of programs, plans, policies and projects, where appropriate environmental assessments are not done resulting in deterioration of the environment.

Objective:

- To secure mainstreaming of environmental norms and assessments into relevant programs, plans, policies and projects.

Policy Statement #15:

- The Government will ensure incorporation of environmental assessment into procedures for designing and implementing development programs, plans, policies and projects.

Implementation strategy #1

- Promote application of Environmental Assessment Tools (Environmental Impact Assessment - EIA, Strategic Environmental Assessment - SEA etc) to all investment and development plans, programs, and projects before their establishment.

2.1. Zanzibar Environmental Management Act No.3. (2015)

Section 48 of the Act: Strategic Environmental Assessment.

- Strategic Environmental Assessment shall be prepared for the implementation of policy, strategy, program and planning in order to:
 - improve environmental quality of the proposed program,
 - protect human health relevant to the proposed development plan,
 - increase wise and sustainable use of natural resources for the intended program, and
 - enhance the precautionary principle for environmental management of the proposed plan.

2.2. SEA is therefore expected to deliver a process of integration of

- Economic policy instruments (taxes, fees, grants, loans, subsidies etc.)
- Regulation, limits, norms, standards & policies
- Information, research results
- Voluntary agreements
- Best Practices

3. PURPOSE OF THE SEA FOR THE ROAD PLAN

The President's Office (Regional Administration & Special Departments), Revolutionary Government of Zanzibar is developing the Rural Feeder Road Maintenance Plan (RFRMP) and intends to carry out Strategic Environmental Assessment exercise for the purpose of :

- ✓ Integration of environmental and social issues into the Plan.
- ✓ Addressing social justice related to RAP into the Plan
- ✓ Raising awareness and equity issues into the Plan.
- ✓ Feeding the findings of SEA into the Feasibility Study,
- ✓ Building a sustainable Detailed Engineering Design and
- ✓ Preparation of Tender documents that could be applied in the implementation of the Plan.

for the upgrading of selected feeder roads in Unguja and Pemba

4. APPROACH & METHODOLOGY

1. SELECTION OF THE STUDY TEAM

1. PORASD
2. DoE
3. ZEMA
4. Halmashauris
5. District Officials

4.1. Site Visits and Observation

2. SITE VISITS AND OBSERVATIONS

1. *field survey of the RE-ALIGNMENT sites and the documentation of the local biodiversity; existing biophysical dynamics; utilities' components.*
2. *The corridor boundaries were surveyed in situ as well as ex-situ via digital maps, satellite imageries, GPS records, and literature review.*
3. *Information on soil features, flora, hydrological flows, settlements, health implications, cultural concerns, changes in landscapes and livelihoods, croplands and farm plots, etc were recorded and documented.*

4.3. Policy, legal and institutional analysis

3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK.

1. *Analysis of the cross-sectoral policy linkages including Vision 2020, MKUZA-II IP, Transport Policy and Masterplan was carried out.*
2. *Legal settings around the plan was also assessed to establish key legal entry points into the Plan.*
3. *Role of institutions in the integration of the Plan.*
4. *Application of environmental & social safeguards under the IFC Guidelines.*

4.4. Baseline and Impacts

4. DEVELOPING BASELINE AND IMPACT ANALYSIS.

1. *Information on Environmental and Social Baseline was acquired from various sectoral reports of the Government and Wildlife Conservation Society*
2. *Evaluation of Strategic Impacts followed the pattern used in evaluating operational safeguards applied under the IFC Guidelines.*
3. *Please see the Safeguard Criteria applied:*

4.5. Impact Identification Criteria Adopted From IFC Operational Safeguards

1. Natural Habitats, Biodiversity Conservation and Forests
2. Environmental Pollution
3. Cultural or Heritage Sites
4. Involuntary Resettlement
5. Information Disclosure
6. Water Resources Management
7. Gender and Development
8. Labour Working Conditions
9. Agriculture and Rural Development.
10. Land Use/Ownership

4.6. How the SEA Report was Formatted

1. The approach used in documenting the SEA findings is based on the hybrid adaptation of the "*task based approach*" with "*topic based approach*" as explained by Riki Therivel (2011).
2. Both approaches are useful for better integration of baseline data and policy consideration in an array of relevant cross-cutting issues (environment, social, policy, legal and institutional settings)
3. However, most of the setting for this report was based upon the "*task based approach*" as it facilitates a flexible temporal progression from the context setting to the impact assessment stage.

5. THE SPATIAL, CUMULATIVE CHALLENGE

- In line with the MKUZA-II Plan, the President's Office (Regional Administration & Special Departments) has taken up the task of developing a long-term sectoral plan in rehabilitation and upgrading of various key rural feeder roads in both Unguja and Pemba. Altogether, 35 feeder roads (11 in Pemba and 24 in Unguja) have been selected under this specific program. These roads cover a total distance of :
 - Pemba = 63.0 Kilometers (Out of 11 proposed road stretches from four districts)
 - Unguja = 76.0 Kilometers (Out of 24 proposed road stretches including associated sub-networks e.g Tumbatu)
 - Total length of the alignment (Unguja and Pemba) = approximately 139.0 Kilometers).
- The Unguja road network alignment passes through 37 Shehias.
- The Pemba road network alignment passes through 23 Shehias
- Total Number of Shehias involved in the road re-alignment plan are 60.

5.1. Spatial Distribution of the Road Stretches - UNGUJA

KUSINI DISTRICT

1. Bwejuu Dongwe
2. Jambiani Kibigija - Mfumbwi.
3. Mtandao Junction -Kajengwa.
4. Kajengwa - Nganani

KATI DISTRICT

1. Jendele - Cheju
2. Kidimni - Ubago
3. Kiboje - Kizimbani (With Magharibi A District)

MAGHARIBI A DISTRICT

1. Mfenesini -Matetema (with North B)

NORTH B DISTRICT

1. Vuga - Michungwa Miwili
2. Matetema-Kidanzini.
3. Donge Mnyimbi - Donge Mchanganani
4. Donge Mtambile - Donge Mwanda

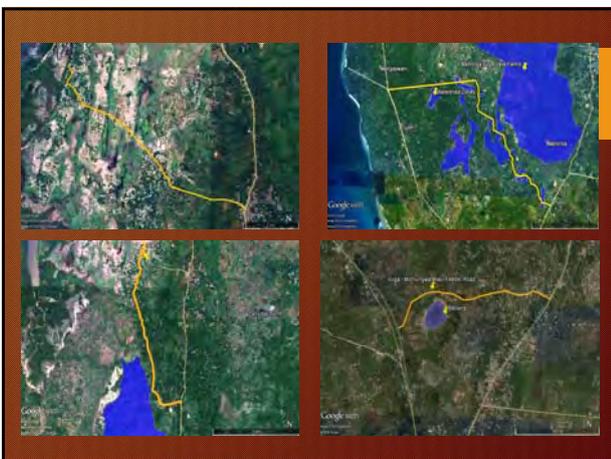
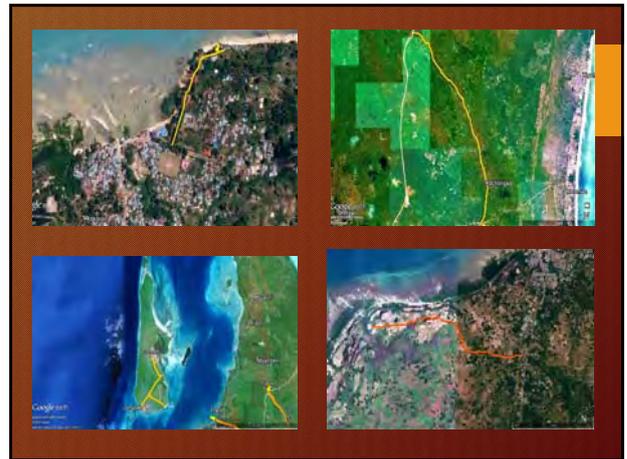
5.1. Spatial Distribution of the Road Stretches - UNGUJA..continued

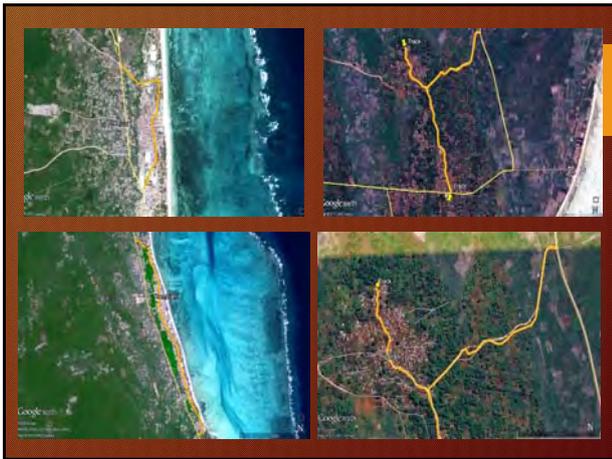
NORTH A DISTRICT

1. Nungwi Roundabout - Mnarani Aquarium.
2. Baubau Junction to Nungwi Roundabout
3. Bwekunduni - Kibeni
4. Ikulu Ndogo Feeder Road
5. Mfurumatonga - Kijini
6. Mfurumatonga - Kilima Juu
7. Mfurumatonga - Mbuyu Popo
8. Mto wa Pwani - Fungu Refu

TUMBATU SUB-DISTRICT NETWORK

1. Wilaya Ndogo to Jongowe.
2. Jongowe Junction to Makutani
3. Wilaya Ndogo to Gomani Football Ground
4. Gomani Junction to Gomani Beach





5.2. Spatial Distribution of the Road Stretches - PEMBA

MKOANI DISTRICT

1. Sokoni Kengeja - Nga'mbo - Shamiani;
2. Mtambile - Mwakunguu Nanguji;
3. Ukutini Uwanja wa Mpira - Skuli ya Chambani;

CHAKE CHAKE DISTRICT

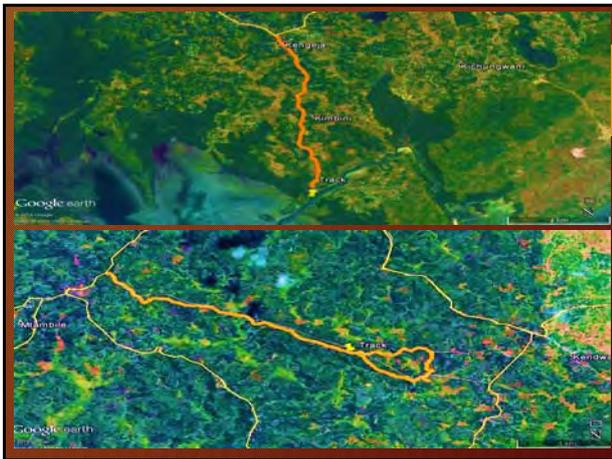
1. Chonga - Mgelema;
2. Wesha - Ndagoni;

WETE DISTRICT

1. Mkarafuu Mmoja - Jumapili Kiuyu;
2. Bwagamoyo - Uwondwe;
3. Finya - Kizota;
4. Dodeani - Finya;

MICHEWENI DISTRICT

1. Majenzi - Shumba Mjini
2. Finya - Kizota



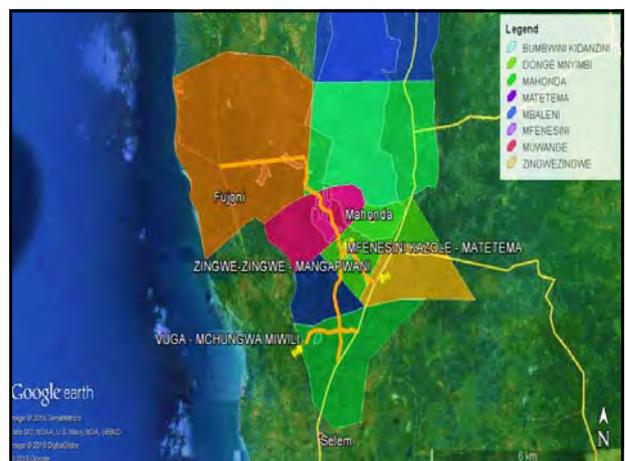


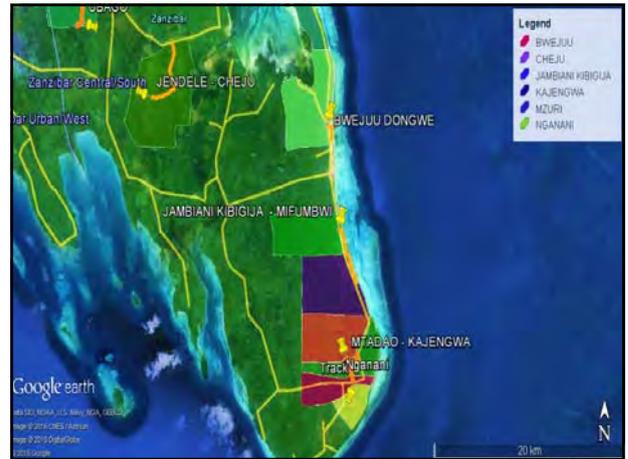
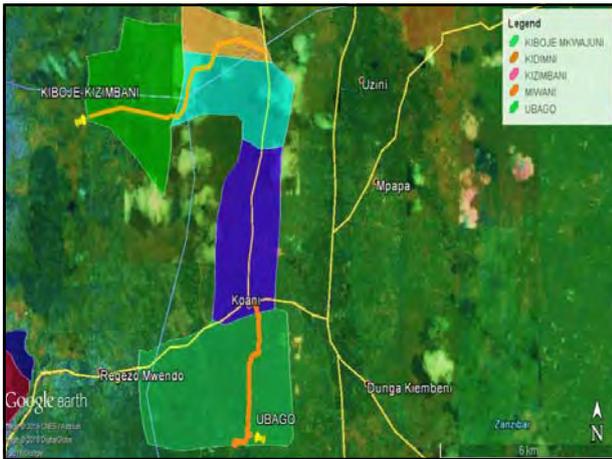
5.3. Shehias Inside Core Planned Areas - UNGUJA

KUSINI DISTRICT	7. Mfenesini
1. Bwejuu Dongwe.	8. Mkadini
2. Jambiani Kibigija.	9. Matetema
3. Jambiani Kikadini.	NORTH B DISTRICT
4. Kajengwa.	1. Vuga.
5. Nganani.	2. Zingwezingwe.
6. Kiongoni.	3. Kidanzini.
KATI DISTRICT	4. Donge Mnyimbi.
1. Cheju.	5. Donge Mbiji.
2. Ubago	6. Donge Vijibweni.
3. Kiboje	7. Donge Mchangani.
4. Miwani	8. Donge Mtambile.
5. MAGHARIBI A DISTRICT	9. Donge Muwanda.
6. Kizimbani	

5.3. Shehias Inside Core Planned Areas - UNGUJA....continued.

NORTH A DISTRICT	10. Nungwi
1. Mto wa Pwani.	TUMBATU SUB-DISTRICT
2. Pale	1. Jongowe
3. Matemwe Kusini	2. Uvivini
4. Matemwe Kaskazini	3. Mtakuja
5. Kijini	
6. Mkokotoni	
7. Pita na Zako	
8. Kibeni	
9. Kivunge	



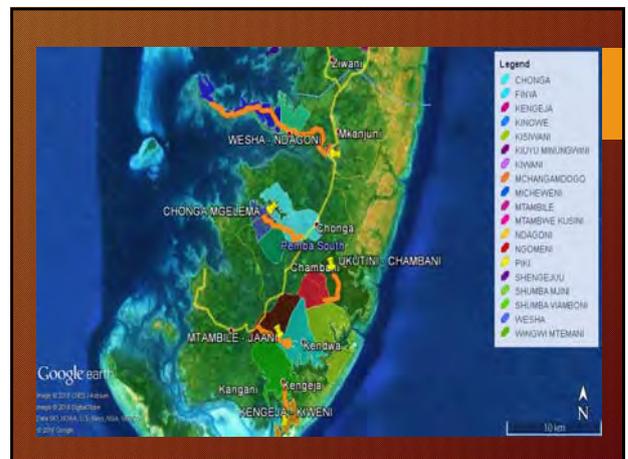
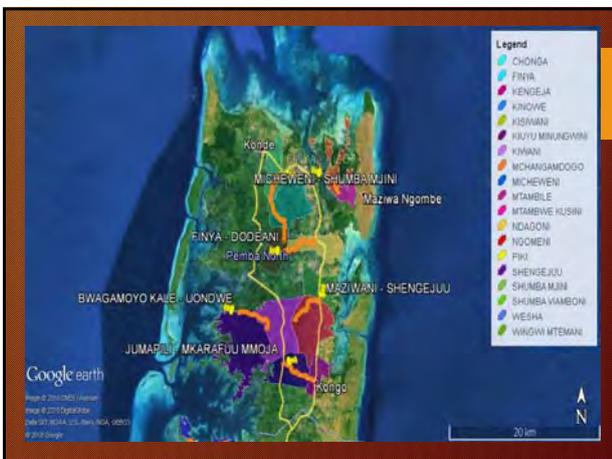


5.4. Shehias inside the core planned areas - PEMBA

MKOANI DISTRICT	CHAKE DISTRICT
1. Kengeja	1. Chonga
2. Mtambile.	2. Mgelema
3. Minazini.	3. Wesha
4. Kendwa.	4. Ndagoni
5. Ukutini.	
6. Maziwani.	
7. Shengejuu	

5.4. Shehias inside the core planned areas - PEMBA..continued.

WETE DISTRICT	MICHEWENI DISTRICT
1. Kiuyu	1. Njuguni.
2. Minungwini	2. Mlindo.
3. Kambini	3. Finya
4. Kisiwani	4. Mihogoni
5. Piki	5. Majenzi
6. Mtambwe Kaskazini	6. Shumba Mjini



6. SITUATIONAL ASSESSMENT AND IMPACT EVALUATION

1. ENVIRONMENTAL BASELINE

1. Equatorial Monsoon Climate with extreme humid temperatures and heavy rains.
2. Diversity of Soils defined under FAO Classification which requires extensive geotechnical studies for a durable lifetime of the planned road alignment.
3. Geological profiles that are critical for geotechnical survey studies.
4. Archaeological assets in both Pemba and Unguja and the importance of their preservation.
5. Soil Erosion and how these events could affect the feasibility of the Feeder Roads Plan, if left unchecked.
6. Surface Drainage, wetlands and other hydrological signatures that could affect the Plan.

SITUATIONAL ASSESSMENT AND IMPACT EVALUATION

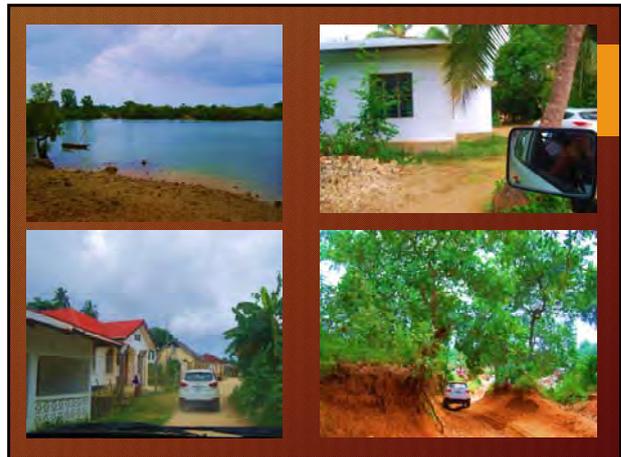
1. ENVIRONMENTAL BASELINE...continued

5. Irrigation Schemes that are inside the core perimeters of the selected road realignment network.
6. Forests and Wildlife in the corridors of impact.
7. Land Use/Land Cover and the current distribution of rural settlements.
8. Rubber and Clove Plantations.
9. Farming Zone Classification and Small Scale Farm Plots
10. Fish Landing Sites and coastal lowlands.
11. Impacts of Climate Change in certain realignment zones.
12. Air and Water Quality.

6.2. SITUATIONAL ASSESSMENT AND IMPACT EVALUATION

6.2. SOCIAL BASELINE

1. Summary of GDP Stats in relation to various socio-economic shares of the economy.
2. Status of the domestic revenue collection due to road transport services.
3. Tourism and Trade, Petroleum Products,
4. Overall transport statistics and the modal distribution of the Zanzibar Road network.
5. Road Accidents
6. Food, Fisheries and Crops Production stats.
7. Forestry Products
8. Water, Electricity infrastructure and services.
9. Health





6.3. EVALUATION OF STRATEGIC IMPACTS

1. Land Take

- The Road (Amendment) Act has defined requirements for boundary lines down to a District Road level. There is no legal definition of a feeder road or its reserve.
- Consequently, there will be land take involving involuntary resettlement, conversion of cultivated lands (Kondes, Orchards, Rice valleys) and disruption of utility lines (communications, water and power line) in some locations.

2. Disclosure

- Absence of prior information sharing at the community level could cause a number of community-based misconceptions about the plan.
- Information disclosure about the plan should be addressed openly with interactive feedback so that the planning level takes into consideration all impacts.

6.3. EVALUATION OF STRATEGIC IMPACTS

3. Existing Development.

- Zanzibar Irrigation Master Plan (ZIMP) initiative such as *Miemele - Mkwara* under KOTGA/EOB.
- USAID Feed the Future Initiative e.g. at *Donge, Mwanda, Mzambarauni, Shengejuu*, etc.
- Rubber and Clove Plantations in various corridors in Pemba.
- Landing sites, beach resorts, etc.
- Communications, water and power supply lines
- Social structures such as mosques, schools, health units, open spaces, convenient stores may be affected.

4. Community Health & Safety

- Road accidents and fatalities.
- Increased traffic offences.
- Increased cost of financing traffic enforcement and compliance may render the roads vulnerable to local safety.
- Occupational health risks within and outside corridors of impact.
- Increased dust emissions, plumes, and deterioration of the corridor's ambient air quality.
- Solid waste and wastewater disposal for chainage activities in the implementation stage.
- Potential risk of dumped hazardous substances and wastes e.g. asphalt, oil.

6.3. EVALUATION OF STRATEGIC IMPACTS

5. HIV/AIDS, Child Labour, and Gender Mainstreaming Issues

- On HIV/AIDS the impacts could be due to "immigration" of labour, but also in stigmatization, prejudices, lack of peer education, lack of tackling strategies.
- On child labour, the exploitation of under-age workers is too tempting to enforce by contractors.
- On Gender Mainstreaming, absence of systemic action plan in recruitment, roles and responsibilities, facilities and working environment is a challenge.
- These cross-cutting issues need to be integrated into the plan to alleviate the plight of vulnerable groups.

6. Natural Hazards, Floods and Climate Risks

- Sharp elevated terrain, watershed zones, drainage channels, coastal lowlands, could induce tidal surges, storm-water floods, coastal erosion, sea-level rise, landslides, respectively, on exposure to forces of climate change.
- On the reverse trend, potential alteration of the watershed region could induce drought-related effects during the dry spate.

6.3. EVALUATION OF STRATEGIC IMPACTS

7. Physical Alteration of the Landscape

- Roads with maximum slope percentages will be required to undergo a large scale terrain alteration.
- These areas will likely become vulnerable to forces of weather and induce surface run-offs and dust plume pollution.
- As a consequence, altered slope of the land, waterlogging of depression, the binding or bonding of soil properties will likely accelerate soil erosion, siltation and sedimentation of the watersheds.

8. Soil Erosion

- The likelihood of soil erosion especially on the elevated terrains is extremely high.
- Top soil removal and surface run-offs will likely affect the quality of streams and surface water ponds downstream.
- Soil erosion may result in degradation of the corridor, siltation of the watersheds, and destruction of the cropland.

6.3. EVALUATION OF STRATEGIC IMPACTS

9. Ground Water Recharge

- Potential degradation of the catchments, command and other sources of fresh water such as wells located within the buffer zone of the road corridor would likely aggravate the rate of environmental and social impacts.
- Water salinity and falling water tables are other environmental challenges already affecting Unguja and Pemba.
- Realignment works would likely affect the rate of aquifer recharge and aquifer yield of that zone, if left unchecked.

10. Forest and Protected Areas

- Some corridors traverse forest plantations, community forest management areas (COFMAs) and forest reserves.
- This is a sensitive issue that should be addressed especially in the context of conservation, ecology, biodiversity, species protection, re-alignment, wildlife accidents, and excavation of quarry zones.
- Forest wildlife corridors in Unguja and Pemba in some realignment may be affected and the Plan should consider alternatives in these realignment zones.

6.3. EVALUATION OF STRATEGIC IMPACTS

11. Flora, Fauna & Biodiversity

- Many species are already documented in the Zanzibar Forest Conservation Act of 1996.
- Two avi-fauna species believed to be in the corridor of impact are categorized as Vulnerable under the IUCN Red List.
- The urgency for their protection is not only at the local level, but at the global level. The likelihood of these species and their habitats being disturbed as a result of the proposed project is very significant.

12. Ambient Air Quality Deterioration

- Road transport involves cumulative emissions of noxious fumes into the atmosphere.
- Air quality and vehicular emissions standards are yet to be enforced.
- Development of such Road Plans should be integrated with the enforcement of the air quality standards including emission testing standards in order to pre-empt and prevent a public health risk.
- The temporal and spatial distribution of atmospheric pollution induced by traffic emissions should be addressed and mitigations set in order to reduce potential health risks on the local communities.

6.3. EVALUATION OF STRATEGIC IMPACTS

13. Wetlands Degradation

- Encroachment and potential degradation of the catchments, wetlands and command areas could undermine the recharge, fertility and productivity of the agricultural and irrigation lands.
- Fragmented watershed zones could trigger soil erosion, siltation and run-offs and this would likely pollute water resources and streams.
- Potential pollution of shallow wells and streams ground water contamination.

14. Borrow Pits and Quarry Zones

- Unsustainable excavation of the borrow pit or even larger quarry zones results in an irreversible damage to the fertile land and natural environment of the area.
- Worse, many of these pits are abandoned and turned into waste dumps and therefore inviting a public health risk.
- Many existing borrow pits are not rehabilitated and turned into dumps.

6.3. EVALUATION OF STRATEGIC IMPACTS

15. Noise and Vibrations

- The expected increase in traffic volume during the operational phase will likely degrade the local environmental quality and pose community health risk as well as causing an impact on the neighboring wild fauna.
- Surface vibration on unstable landscapes can cause physical damages and so there is a need for a long term observation in the quality of the noise emissions in order to develop better environmental safeguards.

16. Displacement & Compensation

- Concerns over valuation and compensation over loss property, right of way, other assets and crops often lead to social displeasure and disapproval of development plans.
- Lack of information disclosure, full participation, and transparency in valuation and compensation for loss of assets and crops may create confusion and more complaints.
- Clearly, lack of a legal mechanism on Resettlement Action Plan (RAP) induce feelings of inequity and despair among the local population.

7. POLICY LINKAGES

1. Zanzibar Vision 2020

- The expected increase in traffic volume during the operational phase will likely degrade the local environmental quality and pose community health risk as well as causing an impact on the neighboring wild fauna.
- Surface vibration on unstable landscapes can cause physical damages and so there is a need for a long term observation in the quality of the noise emissions in order to develop better environmental safeguards.

2. MKUZA-II IP

- Operational Target 1.1.4. of the MKUZA-II Strategy calls for improvement of urban and rural roads by 2015. Specifically, the operational targets include 33 km of urban entry roads rehabilitated by 2015; secondary economic roads (rural roads) and access roads of 284 km in Unguja and 167 km in Pemba constructed by 2015; and Road accidents decreased from 647 in 2009 to 200 in 2015. The Core Cluster strategy is to ensure provision of effective Road infrastructure that will facilitate safety and economic growth as stipulated in the Zanzibar Transport Master Plan

7. POLICY LINKAGES

3. Zanzibar Transport Policy

- The Policy is supported by the Zanzibar Transport Master Plan which recommends improvements of transport regulations and safety methods; policy development; improved public transport, and parking.
- The Zanzibar Transport Master plan also puts emphasis on immediate reconstruction and rehabilitation of roads since the existing roads do not meet the increasing road traffic demand.

4. Zanzibar Environment Policy

- Promoting the sustainable and rational use of renewable and non-renewable natural resources.
- Preserving the terrestrial and marine biological diversity, cultural richness and natural beauty of Zanzibar's lands.
- Ensuring that the quality of life of the people of Zanzibar, present and future, is not harmed by destruction, degradation or pollution of their environment and natural resources.
- Strengthening capabilities of the institution involved in the environmental management.

7. POLICY LINKAGES

5. Zanzibar Land Policy

- Provides transparent and easy access to land for all;
- Facilitates registration of rights on land;
- Provide means to prevent land grabbing and the attached social and economic consequences;
- Protect environment, cultural heritage and use of natural resources;
- Address climate change and related consequences of natural disasters, food shortage, etc.

6. Zanzibar Forest Policy

- To strengthen the role of forestry in alleviating poverty and increasing equity in resource management and utilization.
- To strengthen the role of forest resources in promoting economic development, in meeting demand for forest product, in creating income and increasing national revenues and efficiency.
- To protect and conserve forest resources including wildlife and flora, and enhance the role of forest resources in maintaining soil and water conservation and other environmental benefits.

7. POLICY LINKAGES

7. Zanzibar Water Policy

- The policy on water emphasizes the protection of catchment and watershed areas all over Zanzibar; the adequate supply of quality and safe; and encourages rainwater harvesting, and recharge capacity.

8. Disaster Management Policy

The focus of this policy is on risk of vulnerability to natural environment disasters in Zanzibar including unplanned settlements; degradation of coastal zones; and improper environmental management of the flood risk zone.

7. POLICY LINKAGES

9. HIV/AIDS Policy

- The goal of the Zanzibar HIV/AIDS Policy is to prevent new HIV infections in the population; treat care for and support those who are infected; and mitigate the impact of HIV and AIDS on the social and economic status of individuals, families, communities of all those living in Zanzibar. Employment opportunities at the Road construction sector potentially increases the risks of infections in the core zones between workers and the spread of HIV/AIDS in the surrounding communities.

10. Agricultural Sector Policy

The Policy relates to the protection and conservation of arable lands, food and cash crops, irrigation areas, food security and maintenance of soil fertility and nutritional value from their potential loss and degradation through various agro-development programs.

7. POLICY LINKAGES

11. Fisheries Sector Policy

- The Fisheries Policy is directly involved where a development is considered to affect a fish landing sites or fish markets. There are some cases in the overall rural feeder roads planning where the current no-alternative scenario arrangement puts a number of landing sites and fish markets at risk or either losing part of or the whole of their current holding.

12. Livestock Sector Policy

The National Livestock Policy published in 2011 recognizes that shortage of grazing land as one among the constraints hindering livestock development. The policy calls upon formulation of land use planning that encourages sustainable land utilization for livestock development including rapid adoption of intensive production systems to reduce land pressure.

7. POLICY LINKAGES

13. Information Policy

- The overall objective of Zanzibar Information Policy is to inform the society on socio-economic changes and development trends with particular attention on the fight against poverty and in the provision of economic and basic social services.

14. Gender Policy

The Policy underpins equity and equality between sexes in social, political and economic spheres at all levels. The general objective of the Policy is to provide a national framework for planning, implementation, coordination, monitoring and evaluation of gender mainstreaming strategies, their action plans and budgets.

7. POLICY LINKAGES

15. Population Policy

- The overall goal of the policy is to achieve improved quality of life and standard of living for all Zanzibaris through better management and development processes which must be in line with MKUZA-II Implementation Plan.

16. Local Government Policy

The policy ensures that any development plan should recognize upholding of community land and ownership rights and that communities are adequately compensated in accordance with laws of Zanzibar and that the right to information is disseminated to the local communities and all those who will be directly and indirectly affected by the proposed project.

7. POLICY LINKAGES

17. OSHA Policy

- The policy provides general direction for the occupational health and safety system that is effective in reducing the incidence of work-related injury and disease. The linkage to the Project includes ensuring safety of all occupational users of the roads at all level of planning and development.

18. Climate Change Strategy

- Vulnerability and risks assessment.
- Establish a response framework.
- Identify strategic interventions.
- To propose ways to develop and strengthen the institutional coordination.

8. EVALUATION OF CROSS SECTORAL LEGAL LINKAGES

1. Road (Amendment) Act No.17 (2013)

- Demarcation of realignment boundaries, road reserves, and further legal definitions of the roads' infrastructure.

2. Road Transport Act No.7 (2003)

- The Act provides for regulation of the road vehicles, driver's licenses, vehicular registration, acceptable motor vehicles' operating and performance standards; emissions testing, compliance, and the overall road safety and traffic management. Section 18 (1) guides on environmental monitoring and standards for the vehicular emissions, waste oils and water disposal, etc

8. LEGAL LINKAGES

3. Road Fund Act No.2 (2001)

Section 8(c): Responsibility of funding road maintenance projects in all LGA areas and provide technical support towards cost effective implementation of road works as well as building technical and operational capacity for sustainable local roads maintenance.

4. Environmental Management Act No.3 (2015)

The Act is a blue-print of environmental governance in Zanzibar including environmental assessment and clearance, pollution control and management, natural resources management, conservation of biodiversity, environmental research and education, waste management, climate change and adaptation, etc. Section 48 calls for Strategic Environmental Assessment of policies, plans and programs.

8. LEGAL LINKAGES

5. Zanzibar Forest Resources and Conservation Act (1996)

The Act promotes the protection, conservation, and development of forest and wildlife resources for the social, economic and environmental benefit for the present and future generation

s of the people of Zanzibar. The Act is composed of thirteen parts (13) and the most relevant parts in the Act include National Forest Resources Planning, Forest Reserves and Nature Forest Reserves, Community Forest Management Areas, Special Forest Management Areas, Licenses, and Conservation of Wild Animals and Plants.

Protection of Forest biodiversity and natural habitats is therefore at the center of this Act.

6. Zanzibar Water Act (2006)

The Act includes provisions on regulating, controlling, managing, and protecting all catchment areas; promoting the conservation and proper use of water resources; managing production and distribution of water on sustainable basis; water supply, specifying standards of water quality, effluent and water equipment; advising the Government of Zanzibar in formulation of policies related to the development, supply and conservation of fresh water.

8. LEGAL LINKAGES

7. Land Tenure Act of 1992 (Amended various times)

In order to protect the watershed zones, the Act stipulates that riparian occupiers along non-navigable waterways are required to accord the right of passage over a strip ten (10) meters in width on each bank.

With regard to involuntary resettlement, the Act stipulates that compensation is to be paid to the persons or communities concerned and that compensation shall be equal to the fair market value of the land to be acquired to any development activity. All affected people should be compensated accordingly.

8. Zanzibar Fisheries Act (2010)

The Act protects the established fish-landing sites across the isles and empowers the institution responsible for fisheries to maintain the preservation of those landing sites against encroachment or resettlement from those sites.

8. LEGAL LINKAGES

9. Regional Administration Act (2014)

The Act specifies powers and function of the Regional, District, and Shehia Government administrators. It covers all matters related to the social, economic, and environmental governance in the lower administrative units such as in the Shehias. Section 22 (1) (g) of the Act states that Regional development committees established under this Act have been given a responsibility to mobilize people to participate, contribute, and if possible assist in the use and management of natural resources, protection of environment for sustainable development and in all activities of national development.

10. Local Government Authority Act (2014)

Section 26 (1) of the Act specifies general functions of the council which include maintenance of environmental sanitation, control extraction of stone, sand, wood, and other forms of natural resources, undertake afforestation and urban forestry initiatives, implement the land use plan, and deal with cross cutting issues of climate change, disaster management, and population issues.

8. LEGAL LINKAGES

11. Zanzibar Electricity Corporation Act No.3 (2006)

The Act provides for regulation of services related to generation, transmission, supply, connection, and management of all electricity infrastructure in the country. This Act is crucial for the proposed Rural Feeder Roads Plan as some of the power transmission lines may be affected by the road development or realignment process.

9. INSTITUTIONAL LINKAGES

SEA POLICY, PLANNING COORDINATION

BIODIVERSITY AND NATURAL RESOURCES

DEPARTMENT OF ENVIRONMENT

MONITORING AND VERIFICATION.

RESETTLEMENT ACTION FRAMEWORK

CLIMATE AND RISK FRAMEWORK

9. INSTITUTIONAL LINKAGES

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

POLLUTION PREVENTION AND CONTROL

WASTE MANAGEMENT AND DISPOSAL.

RESETTLEMENT ACTION FRAMEWORK

LEGAL FRAMEWORK AND ENVIRONMENTAL STANDARDS

ZANZIBAR ENVIRONMENTAL MANAGEMENT AUTHORITY (ZEMA)

9. INSTITUTIONAL LINKAGES

INTEGRATION OF THE ROAD AMENDMENT ACT INTO THE PLAN

DEMARICATION OR ROAD BOUNDARIES AND RESERVE

SPECIFICATION OF ROAD STANDARDS.

RESETTLEMENT ACTION FRAMEWORK

ANALYSIS OF THE ROAD ALTERNATIVES

SOURCING OF MATERIALS AND LOCATION.

DEPARTMENT OF ROADS MAINTENANCE

9. INSTITUTIONAL LINKAGES

DEPARTMENT FOR
ROAD TRANSPORT

INTEGRATION OF THE REQUIREMENTS OF ROAD TRANSPORT ACT NO.7 (2003) INTO THE PLAN

ROAD SAFETY AND TRAFFIC MANAGEMENT

VEHICULAR EMISSIONS CONTROL STANDARDS

ENVIRONMENTAL POLLUTION CONTROL

DRIVING LICENSES AND VEHICULAR OPERATIONS STANDARDS.

9. INSTITUTIONAL LINKAGES

ZANZIBAR
COMMISSION FOR
LANDS

INTEGRATION OF THE REQUIREMENTS OF THE LAND TENURE ACT OF 1992 ALONG WITH ITS VARIOUS AMENDMENTS INCLUDING REGULATIONS

URBAN AND RURAL PLANNING

SURVEYING AND MAPPING

LAND REGISTRATION

RESETTLEMENT ACTION FRAMEWORK

COMPENSATION AND VALUATION OF LAND ASSETS

9. INSTITUTIONAL LINKAGES

DEPARTMENT OF
FORESTRY AND
NON RENEWABLE
NATURAL
RESOURCES.

INTEGRATION OF THE REQUIREMENTS OF THE FOREST RESOURCES MANAGEMENT AND CONSERVATION ACT, NO.10/1996.

COFMAS AND PROTECTED AREAS

WILDLIFE CORRIDORS

FLORA AND FAUNA OF LOCAL AND IUCN SIGNIFICANCE

SOURCING OF NON RENEWABLE NATURAL RESOURCES.

RESETTLEMENT ACTION FRAMEWORK

9. INSTITUTIONAL LINKAGES

DEPARTMENT OF
IRRIGATION.

INTEGRATION OF THE ZANZIBAR IRRIGATION MASTER PLAN (ZIMP) INTO THE FEEDER ROAD PLAN.

IDENTIFICATION OF EXISTING IRRIGATION SCHEME INITIATIVES INSIDE RELEVANT VALLEYS.

SURFACE WATER FLOW AND RAIN WATER HARVESTING

RESETTLEMENT ACTION FRAMEWORK

9. INSTITUTIONAL LINKAGES

DEPARTMENT OF
AGRICULTURE.

INTEGRATION OF THE AGRICULTURE SECTOR PROGRAM INTERVENTIONS IN AREAS COINCIDING WITH THE ROAD PLAN.

IDENTIFICATION OF DEMARCATED AGRICULTURAL ZONES INSIDE RELEVANT LANDS.

CROPS PRODUCTION, HARVESTING.

LOSS OF CROP ASSETS

RESETTLEMENT ACTION FRAMEWORK

FEED THE FUTURE, TASAF, ASSP, MIVARF, ETC.

9. INSTITUTIONAL LINKAGES

DEPARTMENT OF
LIVESTOCK.

INTEGRATION OF THE ZANZIBAR LIVESTOCK POLICY IN RELATION TO THE FEEDER ROAD PLAN.

IDENTIFICATION OF DEMARCATED GRAZING AREAS INSIDE RELEVANT LANDS.

RESETTLEMENT ACTION FRAMEWORK

DEPARTMENT OF
FISHERIES
DEVELOPMENT.

INTEGRATION OF THE SAFEGUARDS IN LANDING SITE AND FISH MARKETS IN ZONES ASSOCIATED WITH THE FEEDER ROAD PLAN.

RESETTLEMENT ACTION FRAMEWORK.

9. INSTITUTIONAL LINKAGES

DEPARTMENT OF ANTIQUITIES.

ZANZIBAR WATER AUTHORITY.

INTEGRATION OF THE PRESERVATION AND PROTECTION OF ANTIQUITIES SUCH AS RAS MKUMBUU AND TUMBATU RUINS, AND THE MAKUNDUCHI CAVE.

INTEGRATION OF THE ZANZIBAR WATER ACT (2006) IN RELATION TO THE FEEDER ROAD PLAN.

PROTECTED CATCHMENT AREAS AND WATERSHED ZONES.

GROUNDWATER AQUIFER RECHARGE AND YIELD.

WATER POLLUTION CONTROL

PROTECTION OF SUPPLY LINE AND INFRASTRUCTURE

9. INSTITUTIONAL LINKAGES

ZANZIBAR ELECTRICITY CORPORATION.

DIRECTORATE OF OCCUPATIONAL SAFETY AND HEALTH.

INTEGRATION OF THE ZANZIBAR ELECTRICITY CORPORATION ACT (2006) INTO THE PLAN.

IDENTIFICATION OF POWER LINES WITHIN THE CORRIDOR OF IMPACT AND THEIR PROTECTION AND RELOCATION, IF NEEDED.

RESETTLEMENT ACTION FRAMEWORK

INTEGRATION OF THE OCCUPATIONAL SAFETY AND HEALTH ACT(2005) INTO THE PLAN.

WORKPLACE SAFETY, PROTECTION, PREVENTION SAFEGUARDS AND SAFETY PERFORMANCE

9. INSTITUTIONAL LINKAGES

LABOUR COMMISSION.

ZANZIBAR AIDS COMMISSION.

DEPARTMENT OF PREVENTIVE SERVICES AND HEALTH EDUCATION.

INTEGRATION OF THE EMPLOYMENT ACT INTO THE PLAN.

INTEGRATION OF THE WORKER'S COMPENSATION ACT INTO THE PLAN.

INTEGRATION OF THE HIV/AIDS PREVENTION AND CONTROL INTO THE PLAN

INTEGRATION OF THE PUBLIC HEALTH ACT AND COMMUNITY HEALTH AND SAFETY INTO THE PLAN

9. INSTITUTIONAL LINKAGES

DISASTER MANAGEMENT COMMISSION.

FIRE BRIGADE AND RESCUE DEPARTMENT.

INTEGRATION OF THE DISASTER MANAGEMENT ACT INTO THE PLAN.

DEVELOPMENT OF NATURAL HAZARD RISK ASSESSMENT AND INSURANCE FRAMEWORK.

INTEGRATION OF THE FIRE BRIGADE AND RESCUE ACT INTO THE PLAN INCLUDING EMERGENCY PREPAREDNESS PLAN

OBJECTIVE 1: STRENGTHEN ENVIROMENTAL AND SOCIAL SAFEGUARDS

ACTIVITY 1

Facilitate the inception of the Health, Safety and Environment Coordination Unit at PORASD for the Plan

ACTIVITY 2

Coordinate the establishment of the PORASD field support units at the Regional, District, Halmashauri and Shehia level, respectively, to carry out joint operations for the purpose of awareness, consultations, communications and implementation of the Plan

ACTIVITY 3

Promote preparation of a series of consultative meetings at the institutional and at the community level on the development Plan

OBJECTIVE 1: STRENGTHEN ENVIROMENTAL AND SOCIAL SAFEGUARDS

ACTIVITY 4

Strengthen human, financial and institutional capacity and coordination in PORASD

ACTIVITY 5

Promote inter-sectoral cooperation and networking on the Rural Feeder Roads Maintenance Plan

OBJECTIVE 2: ENSURE ESTABLISHMENT OF THE RESETTLEMENT ACTION PLAN (RAP) FRAMEWORK

ACTIVITY

Prepare a general multi-stakeholder RAP Survey Team to document potential properties, assets, crops, likely to be affected inside the corridor of impact as a result of land take

OBJECTIVE 3: TO ESTABLISH SAFEGUARD MECHANISM THAT PROTECTS THE OPERATIONS OF THE ONGOING SUSTAINABILITY INITIATIVES, PLANS AND PROGRAMS IN THE AREAS OF INFLUENCE

ACTIVITY 1	ACTIVITY 2	ACTIVITY 3
Protect and Conserve Irrigation Schemes	Protect and Conserve Forests and Other Protected Areas (PAs) including COFMAs and Mangroves	Protect Flora and Fauna listed under the Schedules of Zanzibar Forest Act and IUCN Red List

OBJECTIVE 3: TO ESTABLISH SAFEGUARD MECHANISM THAT PROTECTS THE OPERATIONS OF THE ONGOING SUSTAINABILITY INITIATIVES, PLANS AND PROGRAMS IN THE AREAS OF INFLUENCE

ACTIVITY 4	ACTIVITY 5	ACTIVITY 6
Maintain the boundary lines of the Fish Landing Sites and Fish Markets	Preserve the Archaeological Sites on the fringe of the corridors of impact.	Review Realignment Plans along routes containing Schools, Mosques, Primary Health Care Units, Open Space, Public Buildings, General Stores, etc.

OBJECTIVE 4: ENSURE A HORIZONTAL INTEGRATION OF COMMUNITY HEALTH & RISK ISSUES IN THE RURAL FEEDER ROAD MAINTENANCE PLAN

ACTIVITY 1	ACTIVITY 2	ACTIVITY 3
Integrate Traffic Safety and Emissions Control Standards in the Rural Feeder Road Maintenance Plan	Integrate Occupational Safety and Health Requirements in the RFRMP for Community Safety.	Develop HSE and Contractor's Obligations Manuals in maximizing the safety of RFRMP Implementation.

OBJECTIVE 4: ENSURE A HORIZONTAL INTEGRATION OF COMMUNITY HEALTH & RISK ISSUES IN THE RURAL FEEDER ROAD MAINTENANCE PLAN

ACTIVITY 4

Promote HIV/AIDS Prevention in RFRMP

OBJECTIVE 5: TO ENSURE MAINSTREAMING AND PARTICIPATION OF WOMEN, THE POOR, AND VULNERABLE GROUPS IN ENVIRONMENTAL MANAGEMENT PRACTICES OF RFRMP

ACTIVITY 1

INTEGRATE GENDER ACTION PLAN IN THE RFRMP

OBJECTIVE 6: TO ENSURE FULL MULTI-STAKEHOLDER COLLABORATION AND IMPLEMENT CLIMATE CHANGE ADAPTATION IN RFRMP

ACTIVITY 1

Develop a rapid climate screening study for RFRMP to identify and map climate prone areas of RFRMP

ACTIVITY 2

Develop a rapid flood risk assessment of the depression zones for RFRMP Vulnerability and Resilience.

OBJECTIVE 7: TO ENSURE THE PROTECTION OF NATURAL ENVIRONMENT

ACTIVITY 1

Minimize irreversible damage on corridors' landscapes

ACTIVITY 2

Protect agricultural lands from the effects of soil erosion

ACTIVITY 3

Support Local Integrated Water Resources Management

OBJECTIVE 8: TO IMPLEMENT MITIGATION AND ALTERNATIVE MEASURES TO CURB ENVIRONMENTAL POLLUTION

ACTIVITY 1

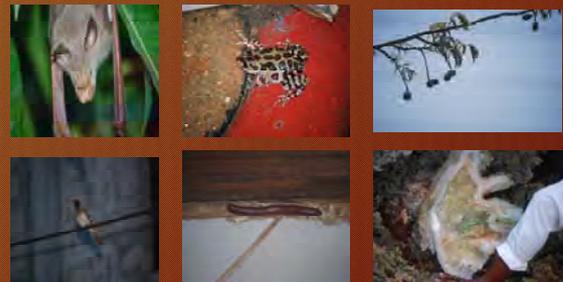
Control Ambient Air Quality Deterioration in the RFRMP Zone

ACTIVITY 2

Control Water Quality Deterioration in the RFRMP Zone

ACTIVITY 3

Control Noise Quality Deterioration in the RFRMP Zone.



THANK YOU

Aboud.Jumbe@gmail.com

Annex 13: Waste Management in context of EIA processes



DEFINITION OF EIA

✓ Environmental Impact Assessment is

A formal process for identifying:

- likely effects of activities or projects on the ENVIRONMENT, and on human health and welfare.
- means and measures to mitigate & monitor these impacts

Environment is broadly interpreted: physical, biological, and social.

In EIA, the term "impacts" is used instead of "effects of activities."

What is an impact?

2

WHAT IS AN IMPACT?

The impact of an activity is a deviation (a change) from the **baseline situation** that is caused by the activity.

The baseline situation is the existing environmental situation or condition in the absence of the activity.

The baseline situation is a key concept in EIA.

To measure an impact, you must know what the baseline situation is.

3

INTRODUCTION WASTE

Basel Convention Definition of Wastes

"substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of the law"

EIA REQUIREMENTS

Task 2: Description of the environment

Assemble, evaluate and present baseline data on the relevant environmental characteristics of the study area. Include information on any changes anticipated before the project commences. Annotate or modify the list to show critical information for the project category.

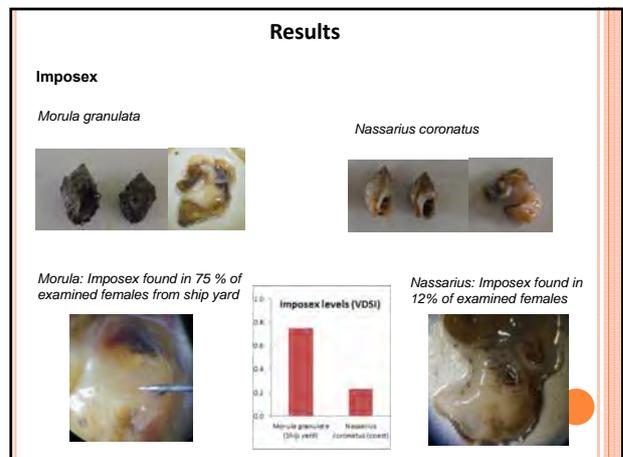
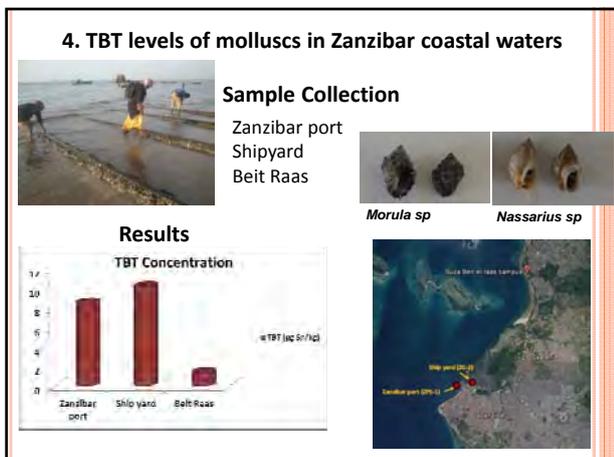
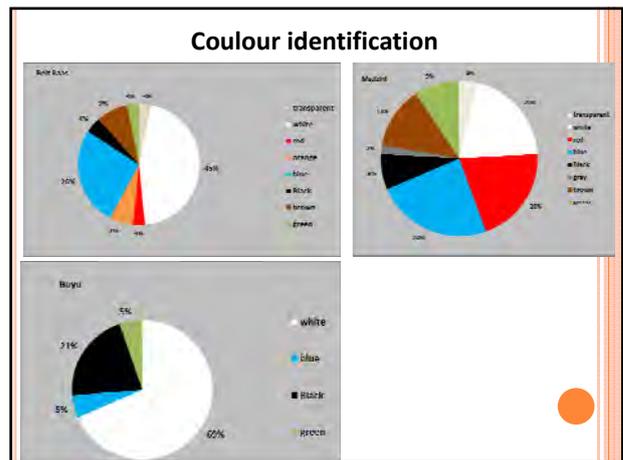
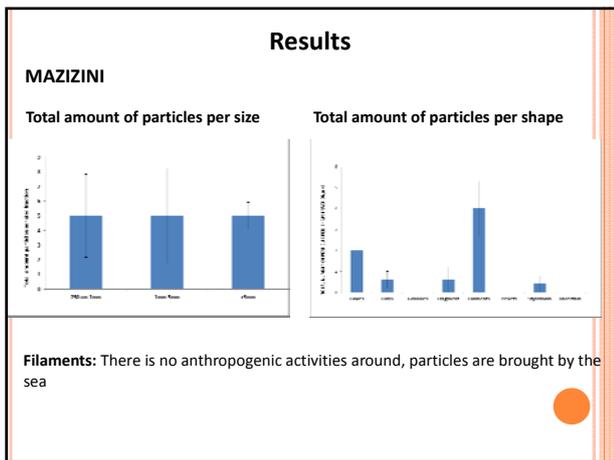
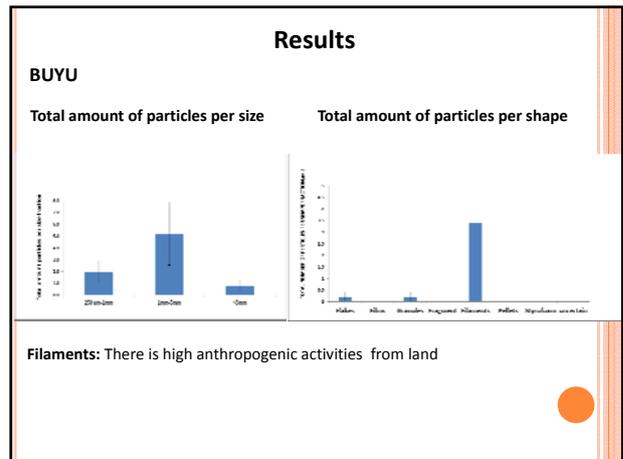
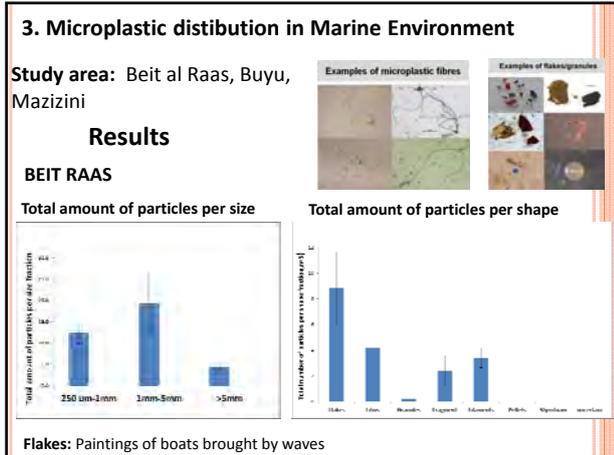
- **Physical environment:** Geology; topography; soils; climate and meteorology; hydrodynamic parameters including waves and current patterns; existing water pollution discharges and receiving water quality.
- **Biological environment:** the effects both of flora and fauna, ecological changes which will disturb ecological niche of the area.
- **Social-cultural environment:** (include both present and projected where appropriate); land use changing planned development activities; community structure; employment, distribution of income, goods and services; recreation public health; cultural properties; tribal issues; customs, aspirations and attitudes.

CURRENT SITUATION

As a result:

- No proper waste management practices
- No sewage treatment facilities

There is a direct flow of raw sewage pipelines and wastewater runoff to the sea



CONCLUSION

- Island ecosystems are stressed with waste material eg inorganic and organic matter, coliform bacteria and chemical pollution
- Proper monitoring is needed
- EIA processes should effectively include the impacts and mitigation of wastes in developmental projects



Annex 14: Environmental impacts of oil and gas exploration

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Commissie voor de milieueffectrapportage



Environmental Impacts/EIA Offshore Oil & Gas Exploration

Ineke Steinhauer
Netherlands Commission for
Environmental Assessment

Zanzibar August September
2016

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Contents

1. Introduction offshore oil and gas activities
2. Seismic
3. EIA in a nutshell
4. Key impacts of exploration drilling offshore
5. Tools to manage environmental impacts
6. Basics on Oil Spill Contingency Planning
-
7. EIA guidelines



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1. Offshore Oil & Gas

The process for oil companies:

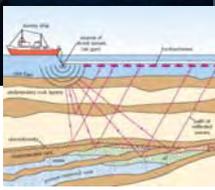
Estimated timeframe

3-5 Years		4-10 Years	1-7 Years	10-30 Years				
Due diligence	Pre-qualification	Exploration seismic	Site surveys	Exploration drilling	Appraisal drilling	Development	Production	Decommissioning
1	2	3	4	5	6	7	8	9

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1. Offshore Oil & Gas

Seismic

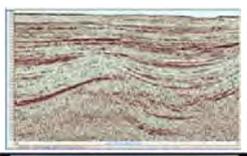
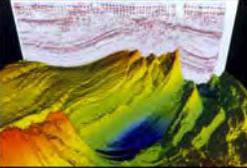
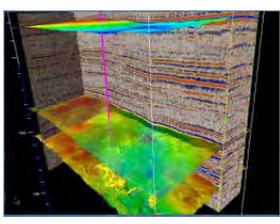






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1. Offshore Oil & Gas

Seismic results....

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1. Offshore Oil & Gas

Exploration drilling





Deep drilling process: <https://www.youtube.com/watch?v=Do0ds8yD7w>

mer 2. General impacts seismic offshore

Basically the 'usual':

- Risk of operational spills (i.p. refuelling)
- Shipping incidents (ship plus arrays = huge!)
- Ships effluents (IMO)
- Solid waste (IMO)

• And under water noise.....!!!!



mer 2. Underwater noise

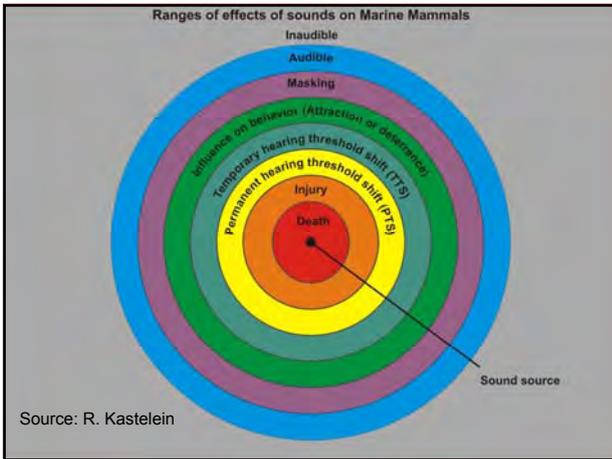
Some time ago:

- Shock waves created by dynamite, later airguns
- Concern for death, injury, damage to hearing
- Particularly related to large whales



Now:

- Death, injury and permanent damage not the main concern
- Noise-> behavioural change-> reduced success rates in feeding, migrating, mating, social coherence= more concern

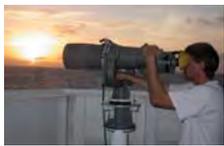


mer 2. Underwater noise

- We do know enough to say that the acute concern for individuals is not a very big one
- We (definitely) do not know enough to say that there is no reason for concern, nor that the impact is insignificant
- More (expensive and difficult) fundamental research required
- In the meantime: avoid and be careful as much as possible

Measures:

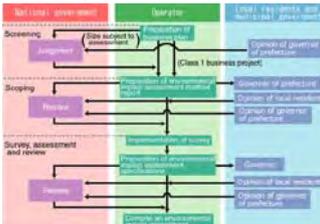
- Know where sensitive species are and avoid in time/space
- Ramping up at start of seismic
- Marine Mammal Observers may help (and is more or less default)



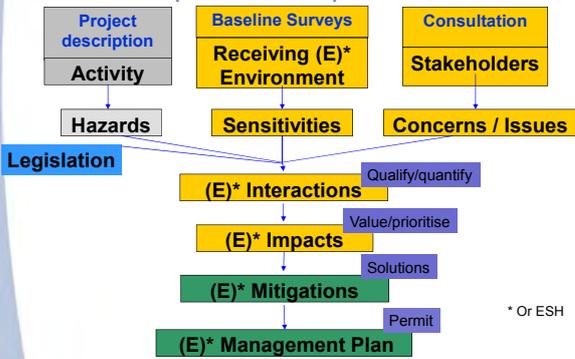
mer 3. EIA in a nutshell

Environmental (Social/Health) Impact Assessment is **Environmental thinking before you start doing:**

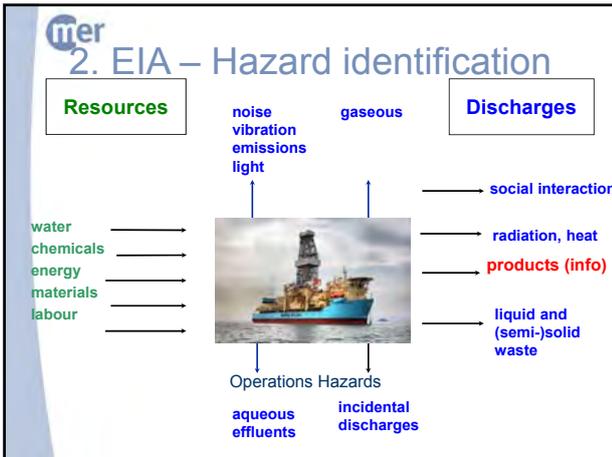
- To identify potential issues timely
- To identify mitigations/solutions timely
- To reduce risks & impacts to the environment
- To cut costs
- To be transparent



mer 2. EIA – Hazards, sensitivities, potential impacts



* Or ESH



mer 4. Offshore exploration drilling

Key hazards (deepwater) offshore exploration drilling:

- Incidental discharges (spills)
- Liquid and solid wastes (drill fluids and cuttings)

mer Offshore exploration drilling

Key sensitivities (deep water) environment:

- Water column ecosystem
- Biodiversity: fish, sea mammals, sharks, turtles, seabirds, ...?
- Sea bottom: possibly/likely?: special features like corals, mounds/pockmarks, macro fauna, ...?
- Onshore receiving environment in case waste is shipped to shore and possibly international environmental sensitivities.....

mer 4. EIA (roughly.): interactions/potential impacts

Hazard	Sensitivity	Potential impact
Drill cuttings	Sea bottom features	Destroy sea bottom locally
Discharges (fluids)	Water column ecosystem	Local poisoning organisms
Wastes to shore	Onshore environment	Soil/water pollution
Accident/spill	Water column ecosystem	Oil plume killing life

mer 5. Tools to manage environmental impacts

Tools to deal with environmental impacts:

- EIA → Environmental Management Plan
- Best Available Techniques (BAT)
- Regulations/standards (project, national, international)
- People!!! Education and training
- Standardisation/certification, e.g. ISO 14001 EMS
- Dedicated preparation: Oil Spill Contingency Plan
- Controls: auditing and monitoring

mer 6. Basics of OSCP

Oil Spill Contingency Planning

= Challenge!

=Preparing for the unexpected and unwanted...

mer 6. Basics of OSCP

Solution!

Expect the unexpected



Be prepared to avoid what you don't want



mer 6. Basics of OSCP

The process in a nutshell:

- Observe (the contingency)
- Alarm/report
- Decide situation and action required
- Mobilise
- Take adequate action
- Monitor
- Close out



BUT....

In parallel:

- Communication, communication, communication
- Project management
- Speed is everything!

mer 6. Basics of OSCP

Generally accepted principles offshore OSCP:

- Safeguarding the safety and health of people, both of responders and communities
- Stopping the source of the spill as quickly as possible
- Minimizing environmental and community impact
- Minimizing the risk of oil reaching the shore



mer 6. Basics of OSCP

Further elements required:

- Preparedness: a comprehensive OSCP and effective training/exercise programme
- Response capabilities & capacity (health and safety of responders, response options, waste management, environmental protection, oiled wildlife).
- Restoration actions (residual impacts)



mer 6. Basics of OSCP

Response preparedness is the capability to respond:

- Equipment stockpiles, personnel, equipment, organization, procedures, logistics, training, exercising and review
- Understanding risk levels, identifying oil fate and trajectory, key ecological and socio-economic sensitivities, realistic planning scenario
- Developing robust, detailed, contingency plans for scenarios up to and including the credible worst case(s)
- Cooperation between Companies, authorities and communities
- Communications strategies in place and key contacts are on board
- Planning to manage and integrate external assistance

mer 6. Basics of OSCP

Tiered approach:

- Company CP
 - Operational spills
 - Rapidly contained/controlled
- National (Oil Spill) Contingency Plan
 - Exceeding level of operational spills
 - Affecting/involving others
- International CP agreements
 - Disasters

The CP's should match...

Large Spill			Tier Three
Medium Spill		Tier Two	
Small Spill	Tier One		
	Local	Regional	National

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6. OSCP-'Game changer'.....

Macondo prospect – Deep Water Horizon April 2010



Murphy's Law & bad preparations.....

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7. EIA guidelines / standards

The oil & gas sector loves standards... (OGP)

ISO Standards for use in the oil & gas industry



mer
7. EIA guidelines / standards

Two different types of standards:  International Finance Corporation

- EIA – process standards
 - ✓ World Bank/IFC
 - ✓ Equator Principles
 - ✓ National/regional legislation or guidelines
 - ✓ Company standards
- Environmental (SH) standards
 - ✓ IFC
 - ✓ IPIECA
 - ✓ Regional (e.g. Barcelona Agreement)
 - ✓ National regulations/standards
 - ✓ Company

mer
7. EIA guidelines / standards

Very 'simple' standards:

- No oil & gas in UNESCO/protected areas
- 'No – flaring'
- 'No cuttings dumping'
- 'No discharge'



mer
7. EIA guidelines / standards

IPIECA, e.g.:

- Oil Spill Preparedness
- Biodiversity
- Water
- Health
- Reporting



<http://www.ipieca.org/library>

mer
7. EIA guidelines / standards

ENVIRONMENTAL, HEALTH, AND SAFETY GUIDELINES
OFFSHORE OIL AND GAS DEVELOPMENT

June 5, 2015

Global industry guidelines for offshore oil & gas

This document is organized in the following manner:

- 1. **Industry-Specific Impacts and Management**
 - 1. **Environment** 2
 - 2. **Occupational Health and Safety** 18
 - 3. **Community Health and Safety** 26
- 2. **Performance Indicators Monitoring** 27
 - 1. **Environment** 27
 - 2. **Occupational Health and Safety** 28
- 3. **References** 32

Annex A. General Description of Industry Activities 39

7. EIA guidelines / standards

Bottom line:

- **If** the right standards are applied and adhered to
- **And** you do not make mistakes/have really bad luck
- Most impacts can **generally** be prevented/greatly reduced
- **But.....**
zero-risk does not exist...



Annex 15: Coastal erosion/climate change and mitigation options in the context of EIA

COASTAL EROSION/CLIMATE CHANGE AND MITIGATION OPTIONS: RELEVANCY TO EIA

Dr Yohanna W Shaghude
 Institute of Marine Sciences University of Dar es Salaam
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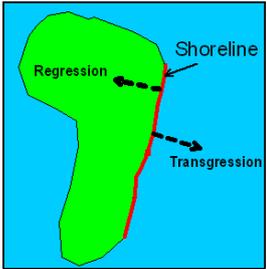
SEMINAR ON EIA ZANZIBAR – AUGUST 2016

Lecture Contents

- ❖ The Concept of Shoreline Change/Climate Change
- ❖ The Global Climate Regime
- ❖ Climate Change Indicators
- ❖ Coastal Erosion in Zanzibar
- ❖ Management Options for Coastal Erosion
- ❖ The Concept of EIA
- ❖ EIA in the Context of Coastal Erosion

The Concept of Shoreline Change

- ❖ The shoreline is a line which marks the boundary between the land on one side and the sea on the other side.
- ❖ This line (boundary) is always in a dynamic state:
 - Sometimes moving towards the land (transgression) and
 - Sometimes moving towards the sea (regression).

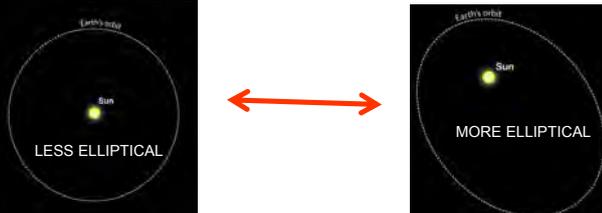


The Concept of Shoreline Change

- ❖ Shoreline changes therefore refers to the dynamic state of the shoreline.
- ❖ The Changes can be seen over both short time scales (few years) and geological time scales (thousands or millions of years).
- ❖ The long-time scale of shoreline changes are generally controlled by the Earth's mean temperature, which is in turn controlled by the earth's orbital characteristics, particularly the Earth's **eccentricity** as well as well as the earth's **obliquity**

The Concept of Shoreline Change

- ❖ The Earth's eccentricity is associated with:
 - The shape of the Earth's orbit around the Sun. This constantly fluctuating, orbital shape ranges between more and less elliptical (0 to 5% ellipticity) on a cycle of about 100,000 years.

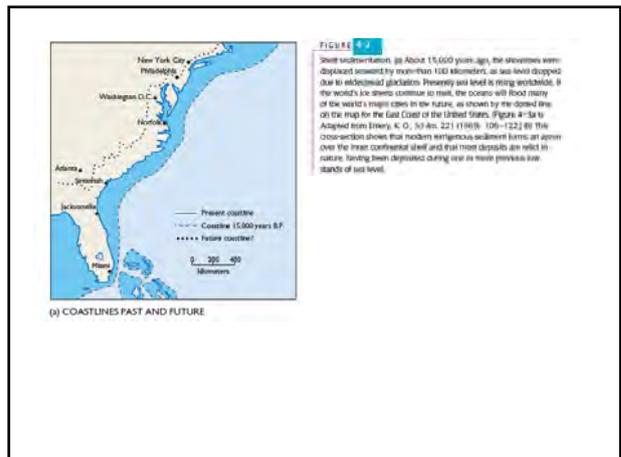
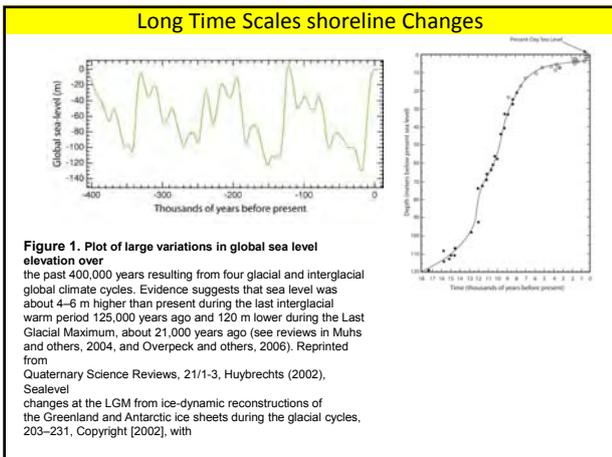


The Concept of Shoreline Change

- ❖ The Earth's **OBLIQUITY** is associated with:
 - The variation of the earth's tilting along its axis of rotation.



The Earth rotates around an axis (imagine a line that joins the north and south poles) but the Earth's axis is not upright, it leans at an angle. This angle changes with time and over about 41 000 years it moves from 22.1 degrees to 24.5 degrees and back again.



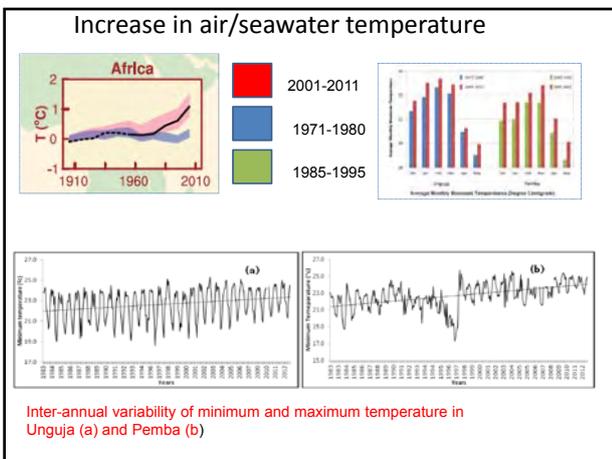
The Global Climate Regime

- On the Geological time scale, Climate Change is a natural phenomena.
- The earth had been experiencing cyclic periods characterized by warm and cooler periods (glacial and interglacial periods).

• Human activities during the past ~200 years have increased CO2 in the atmosphere by about the same amounts as naturally observed peaks occurring during glacial and interglacial periods

Shoreline Change/Coastal Erosion Incidences Today

- Mostly associated with Global warming/Climate Change:
 - Increasing in the volume of the ocean basins due to melting of ice at the poles
 - Increasing volume of the ocean due to the adiabatic expansion of water
- Give rise to changes in atmospheric and oceanographic conditions
- Increase in air/sea water temperature
- Changes in rainfall pattern
- Sea level change
- Change in winds and wave climate regime pattern



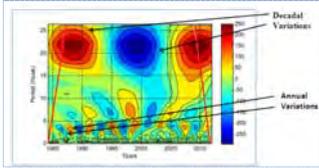
Changes in Rainfall Pattern

Station	Data span (Years)	Annual Mean (mm)	Regression coefficient (Trend, mm/yr)	Kendall's τ	Spearman's R	Significant at 95% level
Tanga	50	1280	-5.26	-0.09	-0.16	N
Pemba	35	1610	-14.93	-0.21	-0.31	N
Zanzibar	50	1670	-0.79	0.02	0.02	N
D'Saluzi	50	3156	-2.30	-0.06	-0.09	N
Mafia	50	1879	-2.00	-0.08	-0.12	N
Kilwa	50	1029	-0.53	-0.02	-0.02	N
Mtwara	50	1101	-3.88	-0.16	-0.24	N

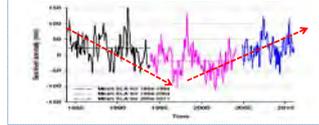
N = Not Significant

Source: Mahongo (2014)

Sea Level Changes

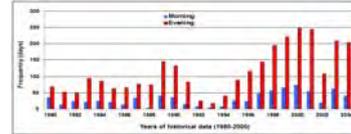


Morlet wavelet spectrum of Zanzibar tide gauge sea level data for the period 1984-2004, showing the annual (the smaller blue and yellow peaks) and decadal (the larger red and blue peaks) variations. Source: Mahongo (2014).

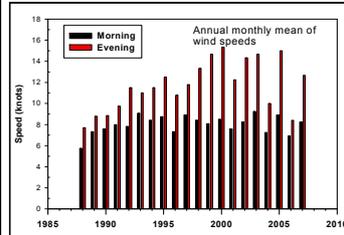


Sea level anomalies (SLAs) indicating mean values corresponding to the negative and positive phases of the 22-year cycle at Zanzibar during the period 1984-2011.

Wind and Wave Climate Regime



Wind speeds at Dar es Salaam showing the frequency of number of days in a year with wind speeds greater than 10 knots (>5m/s). Source: Shaghude et al, 2013.



Annual monthly mean wind speeds at Zanzibar (1987 – 2007). Source: Shaghude and Dubi (2008).

Coastal Erosion in Zanzibar

Erosion Field Indicators:

- Uprooted trees
- Exposure of tree roots
- Flat or gentle beaches
- Wave-undercut cliffs
- Actual collapse of cliffs
- Presence of artificial structures
- Presence of a beach step

Chwaka



Nungwi



Coastal Erosion in Zanzibar



Magnitude of Erosion

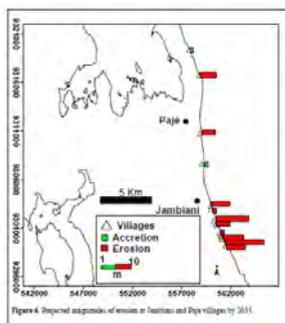
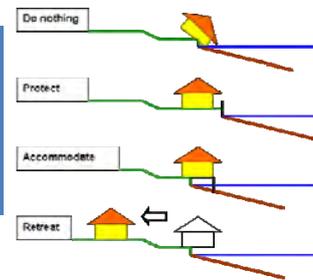


Figure 6. Depicted magnitude of erosion in Jambiani and Paje villages by 2011.

Management Options for Coastal Erosion

There are four management options :

- taking no action (the "doing nothing" strategy),
- the protection of the shoreline from physical change,
- the accommodation of shoreline change through regulation and physical adaptation, and,
- a strategy of landward retreat from the risk.



Zanzibar Experience

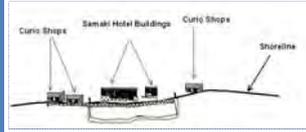
❖ For Hotel Developers and other stakeholders, the response measures against coastal erosion problems has been to install seawalls (mostly vertical seawalls).



❖ Vertical seawalls are unfortunately among those shore protective structures which are not environmental friendly.

❖ Seawalls reflect the incoming waves, leading to progressive removal of beach sand from the beach and beach flattening.

❖ They may also contribute to accelerated erosion at adjacent unprotected shore sections



THE CONCEPT OF ENVIRONMENTAL ASSESSMENT

Main Objectives of EIA:

- ❖ To provide information on the environmental consequences of a given development project for supporting decision making process
- ❖ To promote environmentally sound and sustainable development through the identification of appropriate alternative solutions

EIA IN THE CONTEXT OF COASTAL EROSION

Erosion Control for Coastal Development Projects :

- ❖ Shore front development projects are those projects located on the shoreline or foreshore such as:
 - The construction of ports, marinas,
 - Breakwaters, groynes, jetties, bridges, undersea tunnels,
 - Sewerage outfalls, and laying of submarine cables and pipelines,



SHORE FRONT DEVELOPMENT PROJECTS

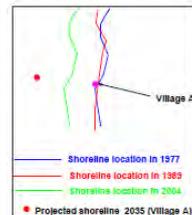
- ❖ These development projects can interfere with the equilibrium of natural coastal processes which may result in coastal erosion/siltation problems; damage to marine ecosystems, aquaculture systems and water pollution, although the severity of the adverse impacts may differ from one case to another.
- ❖ Hence they should be subjected to proper impact evaluation study using appropriate technology complying with the nature and scale of the development project.



EIA: SHORE FRONT DEVELOPMENT PROJECTS

Prediction of Environmental Impacts should Consider:

- Determination of the immediate and long-term influence of the proposed development works on the neighbouring sections of the coastlines and future trends.
- This should include quantitative estimation of shoreline changes such as erosion and accretion and their socio-economic implications
- **To be fore-warmed is to be fore-armed !**



EIA: SHORE FRONT DEVELOPMENT PROJECTS

- ❖ Identify, describe and map feasible mitigation solutions.
- ❖ This should cover capital works as well as the operation and maintenance measures, where applicable.
- ❖ **Need to come up with solutions which are environmentally acceptable and if possible also economically feasible**





Annex 16: New Zanzibar EIA Regulation

ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS OF ZANZIBAR

ABOUD S JUMBE
HEAD – POLICY, PLANNING & RESEARCH UNIT
DEPARTMENT OF ENVIRONMENT
ZANZIBAR

STRUCTURE AND CONTENTS OF THE NEW EIA REGULATIONS FOR ZANZIBAR

- PART I: PRELIMINARY PROVISIONS.
- PART II: REGISTRATION OF THE DEVELOPMENT ACTIVITY.
- PART III: SCREENING OF THE DEVELOPMENT ACTIVITY.
- PART IV: ENVIRONMENTAL SCOPING FOR UNDERTAKING ESIA.
- PART V: PREPARATION OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIA).
- PART VI: PREPARATION OF THE ENVIRONMENTAL REPORT (ER).
- PART VII: POST CLEARANCE OR POST EIA MONITORING.
- PART VIII: ENVIRONMENTAL AUDIT
- PART IX: DECOMMISSIONING OR CLOSURE
- PART X: COMPLIANCE & ENFORCEMENT
- PART XI: APPEAL AGAINST A DECISION.
- PART XII: PUBLIC ACCESS TO INFORMATION UNDER THESE REGULATIONS
- PART XIII: MISCELLANEOUS PROVISIONS

PART 1: PRELIMINARY PROVISIONS

- This Part contains:
- **SHORT TITLE:** Environmental Assessment Regulations of 2016
- **INTERPRETATION:** Various terminologies used in the Regulations.
- **APPLICATION:** Any development activity with significant environmental and social impacts and which will require the fulfillment of Environmental and Social Impact Assessment, Environmental Report or an Environmental Audit to offset those impacts with approved mitigations, alternatives, management and monitoring plans.

PART II: REGISTRATION OF A DEVELOPMENT ACTIVITY WHICH REQUIRES PRIOR ENVIRONMENTAL CLEARANCE

- Any person seeking environmental clearance from ZEMA is required to register his/her development activity or project using ZEMA-approved APPLICATION FORM and a NON REFUNDABLE REGISTRATION FEES.
- The Application must be supported by a FEASIBILITY STUDY or a CONCEPT NOTE or any other feasible and standardized PROJECT INFORMATION that ZEMA shall determine in a case by case basis.
- **SUBMISSION** of any FEASIBILITY STUDY or a CONCEPT NOTE or any other feasible PROJECT INFORMATION must be consistent with a FORMAT approved by Zanzibar Investment Promotion Authority (ZIPA) or Zanzibar Planning Commission, or any STANDARD that is compatible with Development Partners Funding Requirements.

PART III: PROJECT SCREENING

- Screening is a process of determining the level of environmental assessment required for an activity.
- ZEMA is mandated to carry out screening based on the criteria prescribed under the Act, and on Schedule II of the Regulations. Screening may result in the following decisions:
- No Environmental Impact Assessment or Environmental Report shall be required
- An Environmental Report is required, if the proposed activity has minor impacts on environment and society; or
- An Environmental and Social Impact Assessment is required, if the proposed activity is likely to have significant impacts on environment and society; or
- The proposed activity is rejected if it contradicts with the existing national legislations or it is decided by the Authority that, the significant impacts on the environment and society cannot be mitigated.
- The Authority shall, within ten working days from the date of registration, issue a screening statement with Methodology of the screening exercise used, Screening decision, and Recommendations for further actions. The screening statement shall be valid for a period of six months from the date of issue.

PART IV: PROJECT SCOPING AND DRAFTING OF TERMS OF REFERENCE

- If the Screening Decision recommends for undertaking of ESIA Study, then the next process towards environmental clearance is known as SCOPING. The Regulations define the objectives of the scoping exercise as:
- To provide an opportunity for the proponent, his consultant, the relevant stakeholders, interested and affected parties in an activity area to exchange information and express their views and concerns regarding the proposal before an Impact Assessment is undertaken;
- To focus the study on reasonable alternatives and relevant issues to ensure that the resulting Impact Assessment is useful to the decision-maker and addresses the concerns of interested and affected parties;
- To facilitate an efficient assessment process that saves time, resources and reduces costly delays, which could arise where consultation had not taken place; and
- To determine Terms of Reference for carrying out the Environmental Impact Assessment study.

PART IV: PROJECT SCOPING AND DRAFTING OF TERMS OF REFERENCE...cont

- The Scoping Exercise shall be conducted by an expert or firm recognized by ZEMA.
- The **SCOPING EXERCISE** shall be notified to the public through Posting posters in strategic public places in the vicinity of the site of the proposed activity informing the affected parties and communities of the proposed activity; Publishing a notice on the proposed activity in a newspaper of Zanzibar circulation; and Making announcements of the notice in both Kiswahili and English on television, radio or through other means of mass communication.
- The scoping report with draft Terms of Reference shall be submitted by the Proponent to the Authority for review and approval. The Terms of Reference approved by the Authority shall be valid for not more than six months from the date of issue.

PART IV: PROJECT SCOPING AND DRAFTING OF TERMS OF REFERENCE...cont..

- The contents of the scoping report shall include, but need not be limited to, the following:-
- Introduction, including outline of the report, rationale and objectives of the scoping study
 - Description of how the scoping exercise was undertaken;
 - Description of the proposed activity;
 - Description of the location of the proposed activity,
 - Identification of the relevant socio-economic, biophysical, heritage and cultural aspects
 - Stakeholder analysis, stakeholder engagement undertaken in scoping,
 - Description of alternatives for the activity
 - Description of expertise needed.
 - Proposed Draft Terms of Reference; and
 - Any other item as may be determined by the Authority.

PART V: PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT REPORT

- An Environmental Impact Assessment shall be conducted by an expert or firm as prescribed in the Act. An Environmental Impact Assessment shall be conducted subject to the Terms of Reference approved by the Authority.
- The **EIA Report shall be prepared in accordance with the format** of the contents described in the regulations.
- The proponent shall **submit the final soft copy and fifteen original hard copies** of the EIA report to the Authority for review.
- The **Authority may organize a public hearing** if the activity could be considered to have an extensive and far reaching effect on the environment; or if there appears to be a great adverse public reaction to the proposed activity; or the activity involves resettlement or relocation; or it is deemed necessary for any other relevant reason.
- The **public hearing shall take place before the review meeting**. The Authority shall submit the public hearing minutes to the members of the review meeting, together with the EIA report. The cost associated with the public hearing will be borne by the proponent.
- Procedures for Public Hearing are also described in the Regulations.

PART V: PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT REPORT..cont.

- Upon receiving the **EIA Report and payment of the review fee**, the Authority shall identify the relevant institutions to be involved in the EIA review process; Circulate the EIA report to the identified relevant institutions for comments and review; and organize a site verification visit to the relevant activity area that shall involve the identified institutions.
- The Authority may engage external experts in the review process if it may deem necessary. During the site verification, the following persons may be invited at the activity area:
 - Sheha or his representative;
 - The expert or the team leader of the firm that conducted the EIA study;
 - The proponent or his representative; and
 - Any other person if the Authority deems necessary.
- The Authority shall request that the relevant institutions to submit their comments in writing within three working days from the date of the site verification visit. The Authority shall compile the comments submitted by the relevant institutions to be presented in the review meeting.

PART V: PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT REPORT..cont.

- The Authority shall conduct a review meeting within two days after receiving the comments from relevant institutions.
- The EIA review meeting shall comprise of members from relevant institutions. The Authority may invite any other person to attend the EIA review meeting if deemed necessary.
- The Authority shall determine the rules of procedures of the EIA review meeting. The quorum of the EIA review meeting shall be two thirds of the relevant Institutions.
- The members of the EIA review meeting shall use the review criteria for an Environmental and Social Impact Statement prescribed under Schedule IV of these Regulations.
- The Authority shall compile a review report, on the basis of the review meeting, within five working days from the date of the meeting.

PART V: PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT REPORT..cont.

- The EIA review meeting shall recommend to the Authority one of the following outcomes:
 - **To approve the EIA Report;**
 - **or To request additional information from the proponent;**
 - **or to disapprove the EIA Report.**
- Upon receiving the outcome of the review meeting, the Authority shall with reasons issue an EIA Certificate, specifying conditions for activity implementation; or Decide not to issue the EIA certificate; or Request the proponent to provide additional information to the EIA, addressing any gaps as stipulated in the EIA review meeting.
- The Authority shall specify a timeline within which the additional information requested taking into consideration the recommendations provided by the technical review; the outcome of the public hearing, if applicable; the conformity of the activity with existing environmental policies, legislation and standards; and the feasibility and expected effectiveness of the mitigation measures proposed in the EIA.
- The Authority shall issue the decision on the EIA not more than six weeks from the date of submission of the EIA report and payment of the fee.

PART VI: PREPARATION OF ENVIRONMENTAL REPORT

- An **Environmental Report** shall be conducted by an expert or firm as prescribed in the Act.
- The proponent shall submit a final soft copy and six original hard copies of the Environmental Report to the Authority for review.
- The proponent shall be required to submit an Environmental Report to the Authority within six months from the date of receiving the screening statement, or any other duration as may be determined by the Authority.
- Upon receiving the Environmental Report and payment of the review cost, the Authority shall carry out a site verification visit to the relevant activity area.
- The Authority shall issue the decision on the Environmental Report no more than ten working days from the date of submission of the report and payment of the review fee.

PART VII: MONITORING ACTIVITIES

- The proponent of the activity shall undertake self-monitoring, as stipulated in the conditions of the EIA Certificate, Environmental Clearance or Environmental Audit Certificate.
- The Authority shall monitor the environmental and social performance of activities under these Regulations.
- Monitoring by the Authority may take place upon submission of monitoring information by the proponent, as per the conditions of the EIA certificate, Environmental Clearance or Environmental Audit Certificate; or with a frequency as decided by the Authority on the basis of the Environmental and Social Management Plan of an activity, or upon receipt of a complaint about an activity, or for any other reason deemed necessary.
- The Authority shall coordinate any monitoring of the implementation of activities under these Regulations that may involve other relevant institutions. Any on-site monitoring shall be done by an authorized officer. The authorized officers may enter without a warrant upon any land or premises, except a place of residence, for the purpose of monitoring.
- A warrant shall be required for an authorized officer to enter a place of residence for the purpose of monitoring.
- Monitoring reporting procedures by authorized officers are explained along with the procedures for the Director General to address the findings of the Report.

PART VIII: ENVIRONMENTAL AUDIT

- If an activity requires an Environmental Audit the proponent shall register his activity by submitting a duly filled application form to the Authority with non refundable payment.
- The experts or firm shall prepare pre Audit Report with Draft Terms of Reference. The content of Pre Audit Report shall include introduction, rationale and objectives; Description of how the pre audit exercise was undertaken; Description of the proposed activity; Description of the location of the proposed activity; outline of existing significant social and environmental impacts; and identification of the Stakeholders; Conclusion, etc.
- The Pre Audit and draft Terms of Reference shall be submitted to the Authority for review and approval. Upon submission of Pre Audit report and draft Terms of Reference, the Authority may carry out a site visit to the location of the proposed activity and may consult any stakeholder it deems necessary.
- The Authority shall issue the final Terms of Reference within twenty working days from the date of submission of the draft Terms of Reference.
- The Terms of Reference issued by the Authority shall be valid for no more than six months from the date of issue.

PART VIII: ENVIRONMENTAL AUDIT..cont

- If an activity requires an Environmental Audit the proponent shall register his activity by submitting a duly filled application form to the Authority with non refundable payment. The contents of the Environmental Audit Report are described in detail in Part VIII. The proponent shall submit a final soft copy and fifteen original hard copies of the Audit Report to the Authority for review.
- The proponent shall be required to submit an Audit Report to the Authority within six months from the date of receiving the approved Terms of Reference. The Authority shall request that the relevant institutions submit their comments in writing within three working days from the date of the site verification visit.
- The Authority shall compile the comments submitted by the relevant institutions to be presented in the review meeting. The Authority shall conduct a review meeting within two days after receiving the comments from relevant institutions.
- The Authority shall compile a review report, on the basis of the review meeting, within five working days from the date of the meeting.
- The Authority shall specify a timeline within which the additional information requested and issue the decision on the Environmental Audit not more than six weeks from the date of submission of the Environmental Audit Report.
- The Authority shall issue the decision on the Environmental Audit report no more than six weeks from the date of submission of the Environmental Audit report and payment of the fee.

PART IX: DECOMMISSIONING OR CLOSURE

- The proponent, within ninety days prior to the closure or decommissioning date of the activity, shall prepare a decommissioning report or closure plan; and in case of an activity that has an EIA certificate, update the decommissioning report or closure plan prepared as included in the EIA, and Submit to the Authority.
- The contents of the decommission or closure plan shall include Description of the decommissioning or closure activities, Expected consequences or impacts, Mitigation measures and rehabilitation plan, including responsibilities and associated costs; etc.
- The Authority shall perform a verification visit for the review of the decommissioning report or closure plan. The Authority may, within 10 working days from submission Approve the decommissioning report or closure plan, and issue a certificate; or Request additional information.

PART X: COMPLIANCE AND ENFORCEMENT

- A person who fails to implement environmental management plan as prescribed in the EIA report, Environmental Report, Environmental Audit report, decommissioning or closure plan report commits an offence and upon conviction be liable to a fine of not less than one million and does not exceed five millions Tanzania Shillings or imprisonment of not less than five months and more than five years.
- A person who fails to implement conditions prescribed under EIA certificate, Environmental Report certificate, Audit Certificate, decommissioning certificate issued by the Authority, commits an offence and upon conviction be liable to a fine not of less than five hundred thousand Tanzania Shillings and more than four millions Tanzania Shillings or imprisonment of not less than two months and does not exceed four years.
- In addition to the penalty imposed under this regulation the court may order a person convicted for the offence to pay compensation to the third party and any other cost of restoration of the affected area to the Authority.
- Where a stop order is issued its deadline shall be within ten working days from the date of receiving. If no remedial action is taken by the proponent, the Authority may take further legal action.

PART XI: APPEAL

- Any person who is not satisfied with a decision made by the Authority under these Regulations, has a right to appeal to the Minister, within twenty working days after the decision has been issued.
- The person shall notify the Authority on the appeal within five working days after lodging the appeal with the Minister.
- The Minister, through the advisory committee that has been established under section 7 of the Act shall make a decision on that appeal and inform the appellant.
- If the appellant is not satisfied with the decision of the Minister, the appellant may appeal to the appropriate enforcing court of law.

PART XII PUBLIC ACCESS TO INFORMATION UNDER THESE REGULATIONS

- In the interest of freedom of access to environmental information, scoping document, terms of reference, EIA report, EIA review report, Environmental Report, or Environmental Audit report, public comments, minutes of a public hearing, monitoring reports, decision letters on other information, submitted to the Authority under these regulations shall be a public document.
- Any person who desires to consult any document provided under these Regulations may make a request to the Authority.
- Without prejudice to provisions of section 37 of the Act, the Authority shall provide access to the requested document on such terms and conditions as the Authority deems necessary.
- The Authority may charge fees for accessing of the environmental information.

PART XIII MISCELLANEOUS PROVISIONS

If the proponent wishes to:

- Sell off the facility or project;
 - Sell some shares of the activity;
 - Change the name of business or activity; or
 - Change the objectives of the activity
- HE shall submit a copy of documents to the Authority.

If the proponent wishes to change the name of the company or project which was certified under different name, he shall bear the cost for such changes that shall be determined by the Authority.

The Minister may amend the Schedules under these Regulations when deemed necessary.

Any staff from the Authority is prohibited from preparing EIA reports, Environmental Reports, or Environmental Audits.

The Environmental Impact Assessment Regulations (L.N. No. 19 of 2002) issued by Vol. CXI No. 5944 of 22nd March, 2002 are hereby repealed.

SCHEDULES AND FORMS

- Schedule I Application form
- Schedule II Screening criteria and screening lists
- Schedule III Detailed content requirements EIA report
- Schedule IV Review framework used by multi-stakeholder review team
- Schedule V Detailed content requirements for Environmental Report
- Schedule VI Fees and charges

Annex 17: Media coverage

The seminars reached wide media coverage:

- 1 article and photo in Zanzibar Leo newspaper;
- 2 articles in the Daily News (national distribution);
- news item on TV (video available upon request);
- documentary (copy available upon request);
- photos (180).

<p>Cover of documentary</p>	<p>Newspaper article Daily News</p> <p>Experts' recommendations on environ</p> <p>ENVIRONMENTAL issues are a global concern due to increasing activities and new projects including the mining (Oil and Natural gas) operations in many developing countries, including Tanzania.</p> <p>It is a fact that environment is a vital part of being modern and many developing countries are busy adopting Environmental Impact Assessment (EIA) processes to protect their area.</p> <p>Researchers say more than 200 countries globally have adopted the EIA system, which include establishing legislation and public participation by increasing awareness so that people understand their role in protecting environment.</p> <p>Mr. Christopher Wood, a researcher from the United Kingdom (UK), says a common weakness of legal provisions for EIA in developing countries is that they are often ineffectual, unrealistic, or involve environmental problems.</p> <p>He says that organizations responsible for implementing EIA provisions in developing countries are frequently new, lacking in capacity and political clout, and working in a culture where an absence of information sharing tend to make them ineffective.</p> <p>According to researchers, environmental directors or ministers are often bypassed by other more powerful ministers in the government and this lack of organizational capacity explains why EIA largely remains a by-product of government imposed by external agencies.</p> <p>They argue that progress in adopting EIA as an environmental management tool has been slow in developing countries, attributing to various factors, their legislative, administrative, institutional and procedural weaknesses.</p> <p>Fortunately, the developments in various aspects are turning them into development.</p> <p>In efforts to increase the knowledge of the stakeholders about the importance of EIA in Zanzibar, the Netherlands Commission for Environmental Assessment (NCEA) supported a two-day seminar.</p> <p>"It was a timely, helpful session for us on the island, being multiple challenges in environmental protection versus increasing construction of houses, industries and roads," said Mr. Omar Khalifa, one of the participants.</p> <p>Participants from NCEA, government ministries, environmental and EIA consultants gathered at the Ocean View Hotel, Kilimanjaro, for the seminar facilitated by the Zambian Environmental Management Authority (ZEMA) with support from the Netherlands Commission for Environmental Assessment (NCEA).</p> <p>Efforts from ZEMA and NCEA include the seminar, appealing to stakeholders to build issues of environment protection sector by having a better knowledge about EIA and promoting sustainable development programs.</p> <p>Mr. Steinhilber explained about the importance of EIA in development plans, encouraging involvement of the local people, the public and concerned agencies in mapping, reviewing, monitoring and auditing.</p> <p>At the seminar, the latest about global trends in addressing climate change as Strategic Environment Assessment (SEA) and the environmental impact of offshore oil and gas exploration.</p> <p>The officer from NCEA also discussed with the local environmentalists and officers about how to manage environmental impacts. EM Spill Contingency Planning (EM SP) and to identify potential losses directly, mitigate/restore them timely, minimize residual impacts to the environment, and monitoring the risk of oil reaching the shore," said Mr. Steinhilber.</p> <p>She said further elements suggested in "Preparation" is comprehensive O&P and effective training/monitoring programs; improve capabilities to identify threats and ability of respondents; response options; waste management; environmental protection; child safety; and minimum actions (retail impacts).</p> <p>Mr. Fisher explained about the Zambian Environmental Management Authority said at the seminar that requirements, which require private processors to effectively declare the intention to engage in a particular project, in the first step in the EIA process. She said the concept is based by requiring to ensure that all projects with potential significant impacts are subjected to EIA and that monitoring is also among the important factors for environmental management within the EIA context.</p> <p>Mr. Mbitiani said that the current momentum in Zanzibar that will be engaged to conduct Environmental Monitoring and the Institution responsible for Environment, responsible sector institutions based on the nature of the project, project preparation, NCEA/CEN and the concerned community at large.</p> <p>"The preparation of EIA study follows after approval of Terms Of Reference (TOR) as clearly identify scope, issues and evaluate their severity and magnitude and proposed mitigation measures to minimize potential negative impact and enhance positive benefits," said Mr. Mbitiani.</p> <p>She said preparation of an EIA report includes an environmental assessment plan as well as a monitoring plan that outlines monitoring and management of mitigation measures, especially those, which affect local communities.</p> <p>Impact Assessment Certificate issued by the Authority under the Act."</p> <p>The DO said that EIA in Zanzibar has only other areas available in a legal process for any activity which is likely to have significant impact on the environment and society. "Therefore, any stakeholders of development, such as various EIA is properly working for sustainable and increasing the benefits of the project."</p> <p>Participants in the seminar were informed that all important point for the EIA in Zanzibar is not just development, it is a tool for better development. The purpose of EIA is to ensure that development, project, activities and investment are environmentally sound and sustainable.</p> <p>EIA initiatives or projects, however effects and at the same time helps countries to capture the need and potential of the resource, and maximizing the benefits of proposed development, improve long-term viability of projects, helps to prevent mistakes that can be expensive and damaging to environment, social and economic sectors.</p> <p>Mr. Abdul Juma Dhuu, Director of Office (Regional Administration, Special Departments), Region Government of Zanzibar, said the Road Traffic Management Plan (RTMP) and entry and SEA, enhance the growth.</p> <p>"Integration of environment issues from the Planning and social issues related to the Plan, Building awareness</p>
<p>Newspaper article Zanzibar Leo</p>	<p>Example of photo</p>