OUR REF: NJ/ASL/NEMA/18/1
YOUR REF: NEMA/EIA/5/2/1496 Date: 27.11.2018

Director General
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RE: SUBMISSION OF COMMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT STUDY REPORT FOR THE PROPOSED SALT WORKS IN A SECTION OF LAND PARCEL L.R. NO. 13536, MARERENI, KILIFI COUNTY

We refer to the above matter.

Following the advertisements in the Daily Nation on 22nd and 29th October 2018, calling for comments to the Environmental Impact Assessment Study Report (EIA) for the proposed salt works in a section of land parcel LR No. 13536, we hereby submit our comments to assist the National Environmental Management Authority (NEMA) in its appraisal of the report.

The Natural Justice Program works with community groups within the said project area and is well acquainted with the environmental problems caused by other salt projects within the Kilifi area.

The project proposes the construction of salt works in Kilifi County, Magarini Sub-County, Fundi Issa Location, Marereni Sub-location, Adu Ward at Musumarini area on a section of land parcel number L.R. No. 13536. The project proponent is Al-Sherman Limited, a private company incorporated in Kenya.

Pursuant to section 59(1) of the Environmental Management and Coordination Act No. 8 of 1999 and Regulation 21 of the Environmental (Impact Assessment and Audits) Regulations (EIA Regulations)[1], we hereby provide the subsequent comments to the EIA of the proposed project development:

Comment 1: Failure to provide adequate information on the mitigation of impacts on water sources

Potable water is a scare resource in the area proposed for the project.[2] The EIA establishes that the proposed project site has by both surface and underground water sources.[3] These consist of four ephemeral streams and forty-nine underground water resources, which are mainly wells. It is clear from the EIA that these water sources play a critical role in "preventing flooding, filtering of pollutants, nutrient recycling, food and habitat to fish, recharge underground aquifers, supply drinking water and ensure continuous flow of water to surface water."

The project could potentially result in the blocking of the natural flow of some of the streams, which "could affect the hydrological and biological connection of the streams to downstream waters."[4] The project could also destroy or inhibit access to the wells that local community are dependent upon.

The EIA[5] suggests that there be "no blocking or diverting any ephemeral streams" and "no encroachment to community water wells." It also proposes that the "proponent to ensure that the proposed project activities do not compromise the existing community water wells quality."

Destruction of Water Sources

We respectfully suggest that NEMA carefully scrutinize the viability of these plans given the critical importance of these water sources to both the ecosystem and local community. On the information provided, we suggest that it may be impossible for the proponent to construct the project without destroying any water sources. We ask that NEMA note the following:

1. The EIA does not provide any information on the location of the stream nor the wells. Therefore, it is impossible for NEMA to juxtapose the working map of the project[6] with

[1] LN 101/2003.

[2] EIA at page 28

[3] EIA at pages 26-31.

[4] EIA at page 81

[5] EIA at page 131-132

[6] EIA, Appendix 7, Working Design Drawings for the Proposed Salt Works

the water source locations. However, it is notable from the working map that there is no vacant area, which, for example, could accommodate water points or streams.

2. There is no information in the EIA on the size of the project land lived on and used by community members nor does it identify the number of community members in question. The third public participation meeting[7], for example, is littered with comments from the public on people living on the land and using the land for livelihood purposes, including as grazing areas for herders.[8]
3. The total area of land owned by the proponent is 1021.9 hectares.[9] Notably, 753.8 hectares will be used for the following project components: 17 evaporators (613.8 hectares), 20 crystallisers (40 hectares) and serving ponds (100 hectares). This seemingly ignores the land required for "service facilities, and a camp with offices and associated support facilities"[10], dykes and roads.
4. We suggest that the land required for the project would be in excess of 800 hectares leaving only approximately 200 hectares, at best, for the four streams, forty-nine water points, access for community members to the water points and beach *and* to accommodate community members already living on the land. The EIA also does not mention whether buffer areas would be required given its proximity to the mangrove areas and communities. These, of course, would also require sections of land.
5. The issues surrounding the impacts of the salt industry in Kilifi has been well documented, including the Kenya National Commission on Human Rights, *Malindi Inquiry Report.* There has been a history of non-compliance with environmental license conditions and environmental management plans, which have impacted water resources in the area. For example:
   - Malindi Salt Works diverted Kambi ya Waya;
   - Krystalline Salt Limited Gongoni diverted the Balesa seasonal rivers.[11] This has caused flooding of the 50m corridor between Krystalline and Malindi Salt Works.[12]
   - Kurawa Salt disposed bitten into the marine ecosystems and water points (please refer to Annex A of these comments);
   - KenSalt blocked the river near the Kibaoni village (please refer to Annex B of these comments)

On the above information, there are serious questions whether the project would be possible without violating the very plans (not to destroy or compromise water sources) and agreements (not to displace community) that it now proposes to NEMA. We suggest

[7] EIA, Appendix 14

[8] EIA, Appendix 14 at page 14

[9] EIA, Appendix 1, Land Documents

[10] EIA, page ii

[11] Gordon O. Ocholla and others, 'Environmental Issues and Socio-economic Problems Emanating from Salt Mining in Kenya; A Case Study of Magarini District' (2013) 3(3) IJHSS at page 219.

[12] Ibid.

that prior to being granted a license, the project proponent clearly set out the location of the water sources and provide concrete plans on how they will be protected.

Salinization of Fresh Ground and Surface Water Sources

The EIA does not adequately examine the risk of contamination of water sources by salt manufacturing operations. Scant detail is provided on the project components that would prevent any discharge of bitten or hyper-saline water. For example, the EIA[13] suggests that "impermeable material" will be used in the bitten ponds. However, there is no explanation as to what this material would be nor its suitability to contain the risks.

Research conducted on the impact of the salt industry in Kilifi by Ocholla and others[14] established that most community members complained about the effects of salt manufacturing operations on the traditional fresh water sources in the area, which have already become salty.[15] The salinization of surface and ground water is attributed to the contamination of the water sources through underground leaching and discharge of hyper-saline water. These effects have rendered water from such sources unfit for use.

Increased fresh water demand and use

The EIA study report states that during the operational phase of the project, there will be an increased demand for fresh water which may exert pressure on available local fresh water sources. To mitigate any impacts that may arise as a result of this increased demand, the EIA proposes that the proponent should not source fresh water to be used at the salt works from the local community wells.

The EIA fails to provide the qualitative and quantitative projections of the increased fresh water demand. In addition, it outlines mitigation measures, which, in any case, are inadequate. The proponent gives a general statement and fails to state the alternative sources of water in case they need a large amount of fresh water to sustain their operational needs. It is important to give clear information on this issue since not only is portable water a scarce resource in the area but also because sections of the proposed project site serve as an important source of groundwater for the local community.[16] The majority of community members already complain of debilitating shortages of fresh water and portable water for domestic use.[17]

[13] EIA at page 137

[14] Ocholla at page 217.

[15] Ibid at page 218

[16] Refer to the ESIA Study Report at page 28.

[17] Ocholla (n 11) at page 218.

To prevent these impacts, we recommend that NEMA require the proponent to conduct further studies on the possible impacts of the project on the sources of fresh water and produce adequate mitigation measures.

Comment 2: The EIA fails to assess the climate change impacts of the proposed project

In light of the global climate change concerns, it is now a requirement to ensure that development projects take into consideration climate change issues.[18] Moreover, Kenya has expressed its commitment to reducing climate change through the ratification and codification of international and national laws related to climate change respectively. Currently, Kenya has the Climate Change Act 2016 which specifically addresses matters relating to the climate change reduction agenda. Section 20 of the Climate Change Act states that NEMA shall integrate climate change risks and vulnerability assessments into all forms of assessment and for that purpose liaise with relevant lead agencies for their technical advice.

It is unquestionable that climate changes have a significant impact upon human well-being. A recent study, which analysed thousands of peer-reviewed scientific papers, discovered that there were over four hundred of ways in which human health, food, water, economy, infrastructure, and security is impacted by multiple climatic changes including warming, drought, heatwaves, wildfires, precipitation, floods, storms, seal level rise and changes in land cover and ocean chemistry.[19]

The World Bank in its 2018 study[20] outlined that the coastal areas of East Africa are particularly susceptible to climate changes. The study highlights that rising temperatures and extremes are already putting stress on water availability. Similarly, other scientific studies have shown that the coastal region of Kenya, has a history of natural disasters associated with extreme climatic effects.[21] In October 2006, for example, there was a severe rain-induced flooding which affected about 60,000 people and caused damage to important infrastructure.[22] Changes in sea level along the coast line and storm surges are components of climate change that have the potential to increase due to climate change.

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[18] National Climate Change Framework Policy Sessional Paper No. 5 of 2016.

[19] University of Hawaii at Manoa, 'Greenhouse Gases Trigger More Changes Than We Can Handle' 19 November 2018 < https://www.eurekalert.org/pub_releases/2018-11/uoha-ggt111518.php.> Accessed 23 November 2018.

[20] Kumari Rigaud, Kanta, Alex de Sherbinin, Bryan Jones, Jonas Bergmann, Viviane Clement, Kayly Ober, Jacob Schewe, Susana Adamo, Brent McCusker, Silke Heuser, and Amelia Midgley. 2018. Groundswell: Preparing for Internal Climate Migration. Washington, DC: The World Bank.

[21] Kebede AS, Nicholls RJ, Hanson S, Mokrech M, 'Impacts of Climate Change and Sea-level rise: A Preliminary Case Study of Mombasa, Kenya' (2010) 28(1A) JCR 8-19

[22] Kebede and Others (n 25) at page 8

The EIA has not included an assessment of the potential climate impacts of and on the project.

- Comment 1, above, outlined the apparent risk to numerous water sources on the project site. This risk is exacerbated by climate changes that are already adding stress to water sources on the coast of Kenya. This, we suggest, heightens the urgency to ensure that the water sources are protected at the project site.
- The project proponent intends to rely on diesel as a source of energy to run different machines, tools and equipment.[23] Combustion of diesel will certainly emit greenhouse gases which will have an impact on climate change. Similarly, the project will require to use 753.8 hectares of land, which will require clearing of different species of vegetation as identified in the EIA report. This activity will, with no doubt, have an impact on climate change since vegetation act as carbon sink and increase the area capacity of carbon sequestration. In fact, the EIA study report[24] classifies the environmental impacts as a result of the clearance of vegetation as a potential high risk if not mitigated, which, we suggest, are not.

We therefore recommend that the project proponent include a section in the EIA report that assesses the potential risks of climate change and includes mitigation measures to address these impacts.

Comment 3: The EIA lacks adequate information and/or mitigation measures with respect to impacts on the local environment

The EIA study report states that the proposed project area borders the mangrove swamps.[25] However, the EIA does not detail the projects proximity to the mangrove areas nor does it provide any description of these mangrove areas.

The areas bordering the project site forms an important habitat for a variety of terrestrial and aquatic animals, many of which are species of economic importance such as shrimps, crabs and many marine species, including protected species. The wetland areas are frequented by hippopotamus and cranes and the land, depending on the season and water availability, by buffalo and dik-dik. These species are not assessed by the EIA consultant presumably because of the short time-frame of the baseline assessments.

[23] ESIA Study Report at page 57.

[24] At page 79

[25] EIA study report at page 23.

Water extraction from wetlands/creek

The EIA states that the project water pumps will have a capacity to pump 45, 000 Litres of water per minute. The first pump station will extract water from the creek.[26] The EIA, however, provides no information on the creek, its wildlife and whatt this large extraction of water will have. We suggest that this is a fatal flaw of the EIA not to provide any detail on these potential impacts, given the importance of the local ecosystem to various, including protected, species.

Impact of the project on mangroves/wetlands

That no information is given about the distance of the project from the protected area and whether there is any risk of the salt project, aside from the water extraction, impacting the area. For instance, whether there is risk of pollution from the high concentration of brine in the salt project area.

We note with concern there have been several incidents where salt projects in the area, including KenSalt Company and Kurawa Salt Company, having cleared mangroves despite expressing their commitment to preserving mangrove plantations that border the project site (See Figure 2 and 3 of Annex C). We note that complaints on the same have been filed with NEMA (See Annex A and B). Similarly, Ocholla GO and others conducted a study on the *'Environmental Issues and Socio-economic Problems Emanating from Salt Mining in Kenya; A Case Study of Magarini District'* in which they established the deforestation of mangrove forests adjoining the salt pans was one of the environmental impacts associated with salt mining.[27]

Waste generated by the project

The EIA does not detail all the types of waste that are expected to be generated by the project. Though it canvasses disposal of bitten it has not described any other types of waste that may be generated and their disposal. For example, how will human waste be disposed of? The mitigation measure proposed is to conform to the *Waste Management Regulations 2006,* however, this cannot reassure NEMA that the proponent has considered all impacts of the project, especially given the mangrove ecosystem close to the project site and the numerous water sources at the project site. Further, this information has not been given to the local community for them to also consider the various impacts of the project.

We respectfully suggest that NEMA request the project proponent to assess these potential impacts before a license is granted.

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[26] EIA page 47

[27] Gordon O. Ocholla and others, 'Environmental Issues and Socio-economic Problems Emanating from Salt Mining in Kenya; A Case Study of Magarini District' (2013) 3(3) IJHSS at page 217.

Comment 4: The EIA lacks adequate information and/or mitigation measures with respect impacts on local community

In Comment 1, we briefly referred to amount of land that would be needed for the project. Given the lack of information to explain how all impacts would be mitigated in the area required for the project, we suggest that this could have a negative impact on:

- *Displacement of community members*: no information is given on the area of land used by community members, how the land is used and how many community members could potentially be affected.

- *Blockage of community beach access routes and access to local fish landing sites*: The EIA concedes that community access to beaches and to fish landing sites could be impeded by the project.[28] We note that fishing is one of the leading sources of livelihood of the people living around the project site.[29] Though mitigation measures are proposed to stop any impact to community members, we suggest that this may be difficult given the area that the project will be required to utilize. Further, it is very concerning that the proponent will only seek to identify and document the access routes after being granted a license. We strongly suggest that it is imperative such information is provided within the EIA in order for NEMA to understand how these issues will be mitigated and their compliance adequately monitored. Further, given the potential impact on livelihoods of community members, it is wholly inadequate to claim that consultations with fisher groups or community members would occur once the project is licensed. We suggest that such discussions should have occurred during the EIA process itself.

- *Pollution to local community members:* There is no assessment as to whether the community members living on or close to the project proponents land could be impacted by the salt operations, such as air pollution. For example, we note that the salt company, Krystalline Marereni, were issued an order by NEMA in 2016 to stop construction of their project due to the large amounts of dust pollution caused to local community members. The EIA[30] mentions that salt pans under construction are to be flooded to arrest dust pollution, however, this does not address the dust pollution that can emanate from the dykes. This in fact was the cause of dust pollution in the Krystalline case.

[28] Refer to the ESIA study report at page 101

[29] Ocholla (n 11)

[30] EIA at page 138

Comment 5: The EIA fails to consider the cumulative impacts of the project

The provisions of Regulation 18(h) places the proponent under a legal obligation to consider the environmental effects of the project including, but not limited to, the anticipated cumulative effects when conducting the EIA study.

Besides the proposed salt works under consideration, there are six other existing salt works within Magarini salt belt, including Krystalline Salt Limited, which operates Krystalline Marereni and Gongoni Salt Works, Kurawa Industries Limited, Kensalt Limited, Malindi Salt Packaging Industries Limited and Kemu Salt Packer Production Limited.[31] Each of these projects already has a significant impact on the eco-system including destruction of mangroves, diversion and blocking of rivers, dust pollution, pollution of water systems, destruction of shrines, blockage of access routes, flooding and extensive water shortage (See annex C).

The findings of the EIA study report predict that the implementation of this project will also result in potentially negative impacts on local flora and fauna, local hydrology, air quality, soil disturbance, noise vibration, environmental pollution due to the generation and disposal of waste such as brine, interference with the free flow of tides, increased demand for and use of electricity, flooding and water shortage due to increased demand for fresh water among others. Consequently, the negative impacts of this project compounded with the already exiting negative impacts of similar salt projects mentioned above could have adversely affect the community in a significant way.

Such an assessment on cumulative impacts should also include the climate impacts of the project given that the community members are already experiencing the effects of climate change characterized by sever water shortages and erratic weather conditions.

Therefore, it is essential to consider the cumulative impacts of all these projects following the introduction of the new salt plant.

Comment 6: Inadequate public participation throughout the EIA study process

The EIA does not provide any information whether it has been compliant with EIA Regulation 17 in relation to:

- Posting posters in strategic places in the vicinity of the site;
- Publishing a notice of the proposed project for two successive weeks in a newspaper which has nationwide circulation;

[31] Refer to the EIA Study Report at page 5.

- Make an announcement of the notice in both official and local languages on a radio with a nationwide coverage at least once a week for two consecutive weeks.

According to the EIA study report, the proponent simply sent out invitation letters to local leaders and used Chief-Mzee wa Mtaa-Nyumba Kumi to publicize and disseminate information about the meetings.[32] However, it is unclear how these community members were identified.

It is also clear from the minutes of the public meetings that there was no explanation provided on the project and its effects. This, we suggest, is a fundamental flaw of the EIA, given the potential impacts that the project may have on livelihoods and the local environment, including water sources. The lack of information severely limits the ability of community members to participate effectively and give constructive feedback on the project. Affected parties and communities are expected to play a role in project formulation as their input is used to guide any decision to be taken. As such, participation in decision-making ought to be real and not illusionary. In Constitutional Petition Nos. 305 of 2012, 34 of 2013 and 12 of 2014, the Court made observations on public participation during the EIA process. Ngugi J held that:

> *"…the public participation requirement is a continuing one – and that, indeed, it has now been heightened. Having sparsely whimpered through the first round (in the EPR process), the project proponents would be advised to design a more effective public participation programme in the second phase of the Project…"*

In light of the above, NEMA should demand that the proponent holds further consultation meetings with the community in order to give their feedback on the findings of the study and receive the views of the community members with regards to the identified positive and negative impacts of the project.

Regulation 17 is clear that the project proponent needs to seek the views of people who are affected by the project and not only those who stay around the project site. This is particularly important where the project is likely to have negative environmental impacts that go beyond the boundaries of the project site and the areas near the site. The proponents consulted community members from Kadzuyuni area, Muyi wa Kae area and Musumarini area. Other stakeholders who were consulted through the questionnaire survey included local administrative leaders, the political leaders, learning institutions, civil society groups, business community and some community members.[33]

[32] Refer to the ESIA Study Report at page 13.

[33] Refer to the ESIA Study Report at page 63.

However, the project proponent failed to engage community members who live upstream and downstream but close to ephemeral streams that were going to flow through the proposed project site. These include, for instance, community members living in Kamale and Mto wa Mbono area who may be affected in case environmental impacts such as flooding and water pollution occur.[34]

The use of questionnaires as a method of public participation in the study also raises various concerns. The EIA study does not disclose the method used to identify the key stakeholders who took part in the consultation meetings and those who responded to the questionnaires. It is not clear from the appendices on stakeholder consultation, whether all groups of community members especially fishermen and farmers were consulted adequately. No information is also provided on the number of people selected from each group to represent various interests of the community members. Ideally, the use of questionnaires is intended to mainly target stakeholders who are literate. We contend that in this project, the use of questionnaires was discriminatory, ineffective and intended to defeat the main intention, spirit and purpose of public participation. Further, the information in the questionnaires is scant and unsubstantial. It is not clear whether the participants to the questionnaire understood the content therein. It is important to outline the method of selecting the participants to ensure that the process of consultation is carried out devoid of any biases on the part of the interviewer and the interviewee. This also provides for representativeness of the affected population.

According to EMCA, NEMA should, upon the receipt of an EIA study report from any proponent, cause it to be published for two successive weeks in the *Gazette* and in a newspaper circulating in the area or proposed area of the project.[35] Similarly, Regulation 21 of the EIA regulations state that the Authority shall, at the expense of the proponent publish for two successive weeks in the *Gazette* and in a newspaper with nation-wide circulation, a public notice once a week inviting the public to submit oral or written comments on the EIA assessment study report and make an announcement of the notice in both official and local languages at least once a week for two consecutive weeks in a radio with nationwide coverage.

We humbly submit that the proponent is in violation of the provisions above since they failed to send out adequate notifications to the public as required by the law. As noted earlier, the proponent published two (2) advertisements in the Daily Nation on the 22nd and 29th of October 2018 (see annexure D). There is, however, no proof of having

[34] ESIA Study Report at page 26.

[35] Section 59 (1) of EMCA.

published a public notice in the *Kenya Gazette.* NEMA should, therefore, demand that the proponent complies with the requirements of the law by publicizing a notice in the *Gazette*.

It is, therefore, our considered opinion that the project proponent failed to conduct a thorough public consultation process with people affected by the project, throughout the EIA study. We recommend that the NEMA does not approve the EIA study report and instead require the project proponent to develop and implement a proper public consultation programme in line with the spirit and purpose of the law.

Conclusion

We thank NEMA for the opportunity to consider the EIA for the proposed salt works in Marereni. Based on our comments, above, we respectfully submit that there are numerous deficiencies within the EIA that either ignore or fail to accurately assess the potential impacts of the project. We respectfully request that the EIA License be declined until these deficiencies are adequately addressed.

Sincerely,

Natural Justice: *Lawyers for the Communities and the Environment*

ANNEX C: Photographic Evidence of Violations by other salt companies

Figure 1: Destruction of wetlands neighbouring Lake Sudi by Krystalline Salt, Marereni

Figure 2: Destruction of magrooves by Ken salt company.

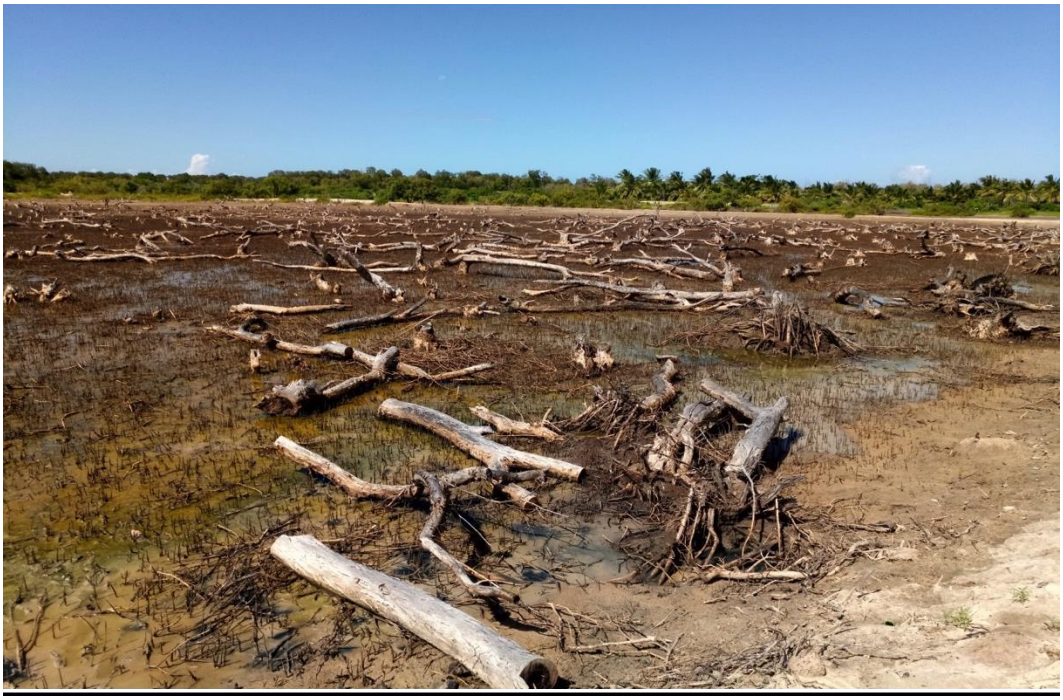

Figure 3: Destruction of Mangroves by Kurawa Salt Company

Bibliography

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A Preliminary Case Study of Mombasa, Kenya' (2010) 28(1A) JCR 8-19.

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