

REPUBLIC OF KENYA



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THE SENATE

TWELFTH PARLIAMENT

RT Hon. Speaker
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14/09/21
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14/9/2021

THE REPORT OF THE SENATE STANDING COMMITTEE ON LANDS,
ENVIRONMENT AND NATURAL RESOURCES

ON

THE PETITION CONCERNING THE ADVERSE EFFECTS OF ROCK
BLASTING AT THWAKE DAM, MAKUENI COUNTY

PAPERS LAID	
DATE	15/09/2021.
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COMMITTEE	Land.
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List of Abbreviations/ Synonyms

CBS	- Chief of the Order of the Burning Spear
CEC	- County Environment Committee
CS	- Cabinet Secretary
CSR	- Corporate Social Responsibility
EACC	- Ethics and Anti-Corruption Commission
EGH	- Elder of the Order of the Golden Heart
NEMA	- National Environmental Management Authority
TAWSB	- Tanathi Water Services Board

PREFACE

Mr. Speaker Sir,

The Standing Committee on Land, Environment and Natural Resources is established pursuant to Standing Order 218(3) of the Standing Orders of the Senate. As set out in the Second Schedule, the Committee is mandated to consider all matters relating to lands and settlement, housing, environment, forestry, wildlife, mining, water resource management and development.

Committee Membership

The Committee comprises of the following Members -

- | | | |
|------------------------------------|---|-------------------------|
| 1. Sen. Paul Mwangi Githiomi, MP | - | Chairperson |
| 2. Sen. Philip Mpaayei, MP | - | Vice-Chairperson |
| 3. Sen. George Khaniri, MGH, MP | | |
| 4. Sen. Gideon Moi, CBS, MP | | |
| 5. Sen. Njeru Ndwiga, EGH, MP | | |
| 6. Sen. (Dr.) Lelegwe Ltumbesi, MP | | |
| 7. Sen. Issa Juma Boy, MP | | |
| 8. Sen. (Arch.) Sylvia Kasanga, MP | | |
| 9. Sen. Johnes Mwaruma, MP | | |

At the Sitting of the Senate held on 21st July, 2020, the Hon. Speaker of the Senate, presented a Petition submitted by Mr. Robert Musyoka, acting Clerk, Makueni County Assembly, on behalf of the Sectoral Committee on Environment and Climate Change concerning the adverse effects of rock blasting at Thwake Dam, Makueni County.

The salient issues raised in the said Petition are as follows-

1. That, the Petitioners, Sectoral Committee on Environment and Climate Change, have concluded the matter of a request for a Statement regarding the adverse effects of rock blasting at the ongoing construction of Thwake Multipurpose Dam in Kalawa Ward, Makueni County and it has not been able to resolve the problem conclusively as the matter is affecting more than one county having been funded and implemented by the National Government.
2. That, the construction of the dam involves amongst other activities, blasting of rocks which has adversely impacted on the lives of the residents of nearby

villages such as houses and shops cracking, thus posing danger to the occupants of such structures. Other adverse effects of rock blasting in the area include noise pollution and respiratory problems to the residents.

3. That, the affected areas include but not limited to Ndindi, Syotuvali Market, Kamutinye, Kitoto, Unyeeo, Ngomano and Syongungi in Kathulumbi Location Ward and Kyusyani, Miangeni, Kaseve, Katithi, Miksi and Mathangathi in Mavindini Ward; and
4. That, the Committee recommended corrective measures to the contractor but the matter has not been addressed by the relevant contractor and other agencies.

Therefore, the petitioners humbly pray that the Senate intervenes to ensure that the contractor safeguards the residents living in the affected areas from devastating effects of the construction of the dam, not limited to the noise from the rock blasting.

Pursuant to standing order 232(1) and the Second Schedule to the Standing Orders of the Senate, the Petition was committed to the Standing Committee on Land, Environment and Natural Resources.

Pursuant to Articles 37 and 119(1) of the Constitution, section 5(2) of the Petition to Parliament (Procedure) Act and standing order 232 of the Senate Standing Orders, the Committee is mandated to consider the Petition and respond to the Petitioner within the prescribed period.

To enable a judicious disposal of the Petition, the Committee resolved to conduct an inquiry on the issues raised in the Petition. In this regard the Committee invited the Petitioner to a meeting of the Committee for the Petitioner to elaborate further on the issues raised in the Petition and to supply supporting evidence on the same.

The Committee proceeded to invite the Cabinet Secretary, Ministry of Environment and Natural Resources for an online meeting on the matter since the subject falls within the mandate of the Ministry of Environment and Forestry and further requested for written responses from the Ministry of Water, Sanitation and Irrigation.

The Committee also undertook a site visit of the Thwake dam area in Makueni County and met with the community living around the Thwake dam accompanied by the area Senator, Makueni County, Sen. Mutula Kilonzo Junior, MP.

ACKNOWLEDGEMENT

The Committee thanks the Offices of the Speaker of the Senate and the Clerk of the Senate for the support extended to the Committee in the execution of its mandate. The Committee extends its appreciation to the Petitioners and the County Assembly of Makueni, Stakeholders; the Cabinet Secretary, Ministry of Environment and Forestry, Mr. Keriako Tobiko, CBS, SC, and the Cabinet Secretary, Ministry of Water, Sanitization and Irrigation, Mrs. Sicily K. Kariuki, EGH, and Senator Mutula Kilonzo Junior, Makueni County for their submissions and contribution to the resolution of this matter.

Mr. Speaker Sir,

It is now my pleasant duty and privilege, on behalf of the Committee, to present the Report of the Standing Committee on Lands, Environment and Natural Resources on the Petition concerning the adverse effects of rock blasting at Thwake Dam, Makueni County.

Signed:  Date: 18/08/2021

SEN. MWANGI GITHIOMI, M.P.
CHAIRPERSON, SENATE STANDING COMMITTEE ON LAND,
ENVIRONMENT AND NATURAL RESOURCES

CHAPTER I

INTRODUCTION

1. At the sitting of the Senate held on 21st July, 2020, the Hon. Speaker of the Senate, presented a Petition submitted by Mr. Robert Musyoka, acting Clerk, Makueni County Assembly, on behalf of the Sectoral Committee on Environment and Climate Change concerning the adverse effects of rock blasting at Thwake Dam, Makueni County.
2. The salient issues raised in the Petition are as follows-
 1. That, the Petitioners, Sectoral Committee on Environment and Climate Change, have concluded the matter of a request for a Statement regarding the adverse effects of rock blasting at the ongoing construction of Thwake Multipurpose Dam in Kalawa Ward, Makueni County and it has not been able to resolve the problem conclusively as the matter is affecting more than one county having been funded and implemented by the National Government;
 2. That, the construction of the dam involves amongst other activities, blasting of rocks which has adversely impacted on the lives of the residents of nearby villages such as houses and shops cracking, thus posing danger to the occupants of such structures. Other adverse 5 effects of rock blasting in the area include noise pollution and respiratory problems to the residents;
 3. That, the affected areas include but are not limited to Ndindi, Syotuvali Market, Kamutinye, Kitoto, Unyeeo, Ngomano and Syongungi in Kathulumbi Location Ward and Kyusyani, Miangeni, Kaseve, Katithi, Miksi and Mathangathi in Mavindini Ward; and
 4. That, the Committee recommended corrective measures to the contractor but the matter has not been addressed by the relevant contractor and other agencies.

3. The Petitioner, therefore, prays that –

The Senate intervenes to ensure that the contractor safeguards the residents living in the affected areas from devastating effects of the construction of the dam, not limited to the noise from the rock blasting.

4. Pursuant to Standing Order 232(1) of the Standing Orders of the Senate, the Petition was committed to the Land, Environment and Natural Resources Committee.

LEGAL BASIS FOR PETITIONS

5. Petitions to the Senate are governed by the Constitution, the Petition to Parliament (Procedure) Act, No. 22 of 2012 and the Senate Standing Orders.
6. Article 37 of the Constitution provides that *every person has the right, peaceably and unarmed, to assemble, to demonstrate, to picket, and to present petitions to public authorities* while Article 119(1) of the Constitution provides that “*every person has a right to petition Parliament to consider any matter within its authority, including to enact, amend or repeal any legislation.*”
7. Section 5(2) of the Petition to Parliament (Procedure) Act, provides that *a petition that is tabled in Parliament under this Act shall be considered in accordance with the Standing Orders of the relevant House.* In this regard, Standing Order 232 of the Senate Standing Orders provides as follows-
 232. *Committal of Petitions*
 - (1) *Every Petition presented or reported pursuant to this Part, shall stand committed to the relevant Standing Committee.*
 - (2) *Whenever a Petition is committed to a Standing Committee, the Committee shall, in not more than sixty (60) calendar days from the time of reading the prayer, respond to the petitioner by way of a report addressed to the petitioner or petitioners and laid on the Table of the Senate and no debate on or in relation to the report shall be allowed, but the Speaker may, allow comments or observations in relation to the Petition for not more than thirty Minutes.*
8. Standing Order 233 requires the Clerk to, within fifteen (15) days of tabling of the report on a petition under Standing Order 232 (Committal of Petitions), submit a copy of the report to the petitioner or petitioners.

CHAPTER 2

CONSIDERATION OF THE PETITION

Approach taken by the Committee

1. In considering the Petition, the Committee observed that it would be important to verify the facts alleged by the Petition. The Committee therefore resolved to conduct an inquiry on the issues raised in the Petition.
2. In this regard, the Committee received the Petition from the Petitioners through the House and further invited the Cabinet Secretary, Ministry of Environment and Forestry, together with his team from the National Environment Management Authority, NEMA, who virtually appeared before the Committee on 14th October 2020 and on 2nd December 2021 where he committed to further send written submissions. The Committee also later wrote to the Ministry of Water and Sanitation requesting for written submissions on the matter.

Petitioners Submissions

The Petitioner outlined the Petition as follows;

Public Petition

1. **THAT**, pursuant to article 119 (1) of the Constitution of Kenya, 2010, “Every person has a right to petition Parliament to consider any matter within its authority, including to enact, amend or repeal any legislation”.
2. **THAT**, the County Assembly Committee on Environment and Climate Change (hereinafter the Committee) has concluded the matter of a request for a Statement regarding the adverse effects of rock blasting at the ongoing construction of Thwake Multipurpose Dam in Kalawa Ward in Makueni County.
3. **THAT**, the Committee has not been able to conclusively resolve the problem, since the project is funded and implemented by National Government affecting more than one County, hence the resolution to petition the Senate.
4. **THAT**, the construction of the dam involves a number of activities including rock blasting to obtain stones and rocks for construction use.

5. **THAT**, the construction activities at the dam, more so the rock blasting, have brought about a plethora of challenges and adverse impacts on the lives of the residents of the nearby villages.
6. **THAT**, the noise arising from the rock blasting activities have caused house and shops to crack hence weakening the structures and posing danger to the occupants of such structures.
7. **THAT**, flying rocks from blasting site end up hitting roofs of the nearby homesteads a case in point is the house of Ms. Mary Mwikali Kyali who her homestead is located barely 200 metres from the site.
8. **THAT**, the affected areas include but not limited to; Ndingi, Syotuvali Market, Kamutonye, Kitoto, Unyeeo, Ngomano, and Syongungi in Kathulumbi Location. Kalawa ward and Kyusyani, Miangeni, Kaseve, Katithi, Miksi and Mathangathi in Mavindini ward.
9. **THAT**, the Committee and the Department of Water, Sanitation, Environment and Climate Change of County Government of Makueni carried out site visits to the project and to the areas affected on separate occasions on a fact-finding mission.
10. **THAT**, the contractor provided contradicting information from what was gathered during the said site visits by the two independent parties. For instance, the contractor indicated that rock blasting was never done at night and yet in actual sense it was done and the contractor did not have a license for night rock blasting.
11. **THAT**, the Committee, the Department of Water, Sanitation, Environment and Climate Change of County Government of Makueni, the project Coordinator, Thwake Multipurpose Dam Project, Community Liaison, (representatives of SMEC Kenya (Pty) Ltd. the project supervisors) and representative of the people from the two wards, held a consultative meeting at the project site on 1st November, 2019 to deliberate on the matter in which corrective measures to the effects of rock blasting were resolved and given timelines mostly to be undertaken by the contractor and others by the SMEC Community Liaison officer. The latest timeline was set to be 8th November, 2019 which has long passed and no efforts have been shown to effect the resolutions.

Response by the Cabinet Secretary, Ministry of Environment and Forestry

The Ministry vide a letter Ref. No. SEN/DCS/LENR/2/2020/(70) dated 17th November, 2020 was invited to make submissions on the Petition and appeared before the Committee on 2nd December, 2020 and presented as follows;

1.0 Background

Thwake Multipurpose Dam is a National Government Project undertaken by Tanathi Water Service Board (TAWSB) being constructing at confluence of Athi and Thwake rivers in Mavindini Division of Makueni District, Kalawa division in Mbooni East District and covering sections of southern part of Yatta division in Kitui West District. It is an embankment dam with an approximate maximum height of 84M covering an area of approximate 2,000ha, with a catchment spanning about 10,276km² spreading into among other locations Mavindini, Kanthuni, Kitise, Kithuki, Kathonzweni and Mbuvo. Part of the inundated area will be in Kanyangi locations in Yatta division (Kitui West District). The dam will store the flood flow from the Athi and the seasonal Thwake rivers and provide water supply for multipurpose use.

The environmental complaints and other issues were raised by the communities around the project area in 2019.

1. The Ministry through the National Environment Management Authority (NEMA) is aware of the issues raised. NEMA has coordinated other relevant stakeholders to address the issues and is continually doing so since the project is still ongoing.
2. **THAT** the issues raised by the petitioner were brought to the knowledge of the County Environment Committee (CEC) and deliberated accordingly.
3. **THAT** in a County Environment Committee meeting held on 3rd September, 2019 deliberated on the issues surrounding Thwake Dam, among them, complaints on blasting of rocks (**Minutes attached, Annex I MIN 2: 3/9/2019**) and established a technical committee to visit the site and investigate on the issues raised.
4. **THAT** the Technical Committee visited the site on 5th September, 2019 and prepared a report on that course (**Technical Committee Report Attached Annex II**).
5. **THAT** the technical committee which visited the site on 5th September, 2019 found that the contractor has acquired all the relevant documentation and also addressed issues of sanitation and safety.

6. **THAT** the committee **did not** also establish the cracks in buildings as claimed to have been caused by the blast and vibrations.
7. **THAT** another Environment Committee chaired by the County Commissioner was held on 18th September, 2019 and issues affecting workers and the community around the project area were discussed and addressed in the meeting (**Minutes Attached, Annex III**).
8. **THAT** on 1st November, 2019 a County Environment Committee meeting was held at Thwake Dam and the Hon. Members of the County Assembly Committee on Environment and Climate Change were invited and participated in the meeting (**Minutes Attached, Annex IV**).
9. **THAT** on 13th March, 2019 NEMA conducted a site inspection on the project site and issued an improvement notice to the proponent to undertake Environmental Audit which will provide more clarity on compliance level to the licensing condition. (**Copy attached Annex V**).
10. **THAT** the recommendations made by the Technical Committee on its report (**Annex II**) and the joint meetings held on 1/11/2019 (**Annex IV**) were not fully implemented due to COVID-19 Public Health Guidelines and Government directive on measures to control the spread of the pandemic and there were no other physical meetings held from December 2019 until 10 November, 2020 when the first CEC meeting for 2020/2021 was held.
11. **THAT**, the County Environment Committee, in a meeting held on 10th November, 2020 resolved to make a joint site inspection to monitor the compliance level on the issues jointly agreed with the proponent during the Technical Committee site visit on 5th September, 2019 (**Annex II**).
12. **THAT**, the Ministry through NEMA will continue to closely monitor the implementation of the Environmental Management Plan and compliance to Environmental Impact Assessment license conditions.
13. The Ministry will involve relevant lead agencies to ensure the ongoing project is implemented while ensuring sustainable environmental management.

Response by the Cabinet Secretary, Ministry of Water, Sanitation and Irrigation

The Committee met the Cabinet Secretary, Ministry of Water, Sanitation and received the

following submission:

Hon. Chair, Thwake Multipurpose Dam is a National Government Project undertaken by Ministry of Water Sanitation and Irrigation (MWSI) being constructed at confluence of Athi and Thwake rivers in Mavindini Division of Makueni District, Kalawa Division in Mbooni East Sub-County. It is an embankment dam with an approximate maximum height of 80.5M covering an area of around 9,217 acres, with catchment spanning about 10,276 km², spreading into among other locations; Mavindini, Kanthuni, Kitise, Kithuki, Kathonzweni and Mbuvo. Part of the inundated area will be in Kanyangi locations in Yatta Division, Machakos County. The dam will store the flood flow from the Athi and the Thwake rivers and provide water supply for multipurpose use.

The Project is funded by GoK and development partners; and is supervised by an international firm of consulting engineers. The Contractor employed in the works is also an international contractor from China with wide experience in construction of such works. The construction process involves quarrying of rocks through drilling, blasting and transporting the same to the construction points.

Hon. Chair, to respond to the issues raised by the petitioner, I wish to inform the Committee that the Ministry has been aware of the environmental concerns of the community around Thwake Dam construction site since the commencement of construction in March, 2017, and has continuously ensured the implementation of remedial actions in compliance with environmental regulations and guidelines. This particular petition first came before the County Government of Makueni in the year 2019, where the issues raised by the petitioner were brought to the knowledge of the County Environment Committee (CEC) and deliberated accordingly.

At a meeting of the County Environment Committee held on 3rd September, 2019, issues surrounding Thwake Dam, among them, complaints on blasting of rocks were discussed (*Minutes attached, Annex I, MIN 2: 3/ 9/ 2019*) and a Technical Committee formed to

visit the Dam site and undertake further investigations. The Technical Committee visited the site on 5th September, 2019 and prepared a report on their findings (*Technical Committee Report Attached Annex II*). Key observations of the report were that the contractor had acquired all environmental licenses and permits necessary for dam construction, cracks in buildings had not been caused by the blasts and vibrations. In addition, they found that issues of sanitation and safety have been adequately addressed.

Hon. Chair, the County Commissioner held an Environment Committee meeting on 18th September, 2019 to discuss issues affecting workers and the community around the project area (*Minutes Attached, Annex III*). A follow up meeting, which was attended by the County Assembly Committee on Environment and Climate Change was held at the Dam site on 1st November, 2019 (*Minutes Attached, Annex IV*). During the meetings, environmental issues were raised, key among which were lack of access to water, dusty roads, noise pollution, vibrations, blasting without adequate warning (sirens) and falling rock debris after blasting.

The Environment Committee recommended that the project undertake the necessary measures to address the above community concerns and that frequent site visits be conducted to ensure the contractors implement them. Shortage of water in the vicinity of the Dam site was to be addressed by constructing six (6) boreholes, two (2) at Mavindini, two (2) at Mbooni and two (2) at Kalawa Wards.

Towards this end, the Government through the CSR component of the project is implementing all the six (6) boreholes. Dust levels have been controlled by repairing road sections near schools and markets from the site to Kwa-Kamote Junction; approximately 3 km; in addition to watering haulage roads on site. The measured sound levels within 250 to 300 metres of the blast point had been found to be 108.1 dB(A) against a limit of 114 dB(A) in accordance with NEMA guidelines for mines and quarries.

Hon. Chair, Blasting is restricted to daytime hours only in accordance with the blasting license issued by the Government that limits blasting hours between 6am-6pm, while the measured vibration levels obtained from a seismograph installed on site are below the NEMA limit of 0.5 cm/sec. This is safe and is tolerated by nearby humans and animals and cannot damage structures. A baseline survey conducted on 16th December 2020, at UNYEEO area prior to commencing blasting in the quarry near the area, established that many structures have cracks, which could not be directly linked to vibrations and were attributed to improper construction methods leading the defects.

Hon. Chair, to minimize cases of falling debris on houses or even injuring members of the public, blasting sites have been clearly marked with visible tape and warning signs erected to warn people of the danger. Blasting timetable is shared with the community in good time before blasting and commencement of blasting is announced via sirens loud enough to warn every one of the impending blast. Residents very close to the quarries have been relocated to safer areas.

Hon. Chair, NEMA, while on its routine inspection mission, conducted a site inspection on the project on 13th March, 2020 and issued an improvement notice to the proponent to undertake Environmental Audit which will provide more clarity on compliance level to the licensing conditions.

The County Environment Committee, in a meeting held on 10th November, 2020 resolved to make a joint site inspection to monitor the compliance level on the issues jointly agreed with the proponent during the Technical Committee site visit on 5th September, 2019 (Annex II).

The Environmental Audit and the joint site inspection visit would have made very useful tools to verify the level of compliance on the environmental and safety measures, however, the activities are yet to take place due to challenges posed by implementation of COVID-19 Public Health Guidelines and Government directive on measures to control

the spread of the Pandemic.

In conclusion, Hon. Chair, the Government is very keen about the safety of its citizens during implementation of such projects and any deviation from this cardinal obligation is not tolerated and the Ministry of Water, Sanitation and Irrigation will not hesitate to sanction contractors who flout the rules. Further, in order to strengthen the implementation of the environmental and safety measures at Thwake Dam construction site, the project consultants under the guidance of this Ministry have prepared and ensured strict compliance with the Environment Health and Safety protocol on site. At the same time the Ministry, County Environment Committee, NEMA and other stakeholders will continue to closely monitor the implementation of the Environmental Management Plan and compliance to Environmental Impact Assessment license conditions.

Finally, the Ministry has established a Community Liaison position in the project that engages the community to ensure harmonious relations are maintained between the community and the project for smooth implementation.

Site Visit by the Senate Committee on Land, Environment and Natural Resources

The Committee undertook a Site Visit of Thwake Dam on Friday, 28th May, 2021. The Committee was accompanied by Senator Mutula Kilonzo Junior, MP, the Senator for Makueni County. The County Commissioner was also present at the Committees meetings with the residents neighboring Thwake Dam.

On visiting the Site, the Committee was able to visit the places where the contractor admitted to doing the blasts.

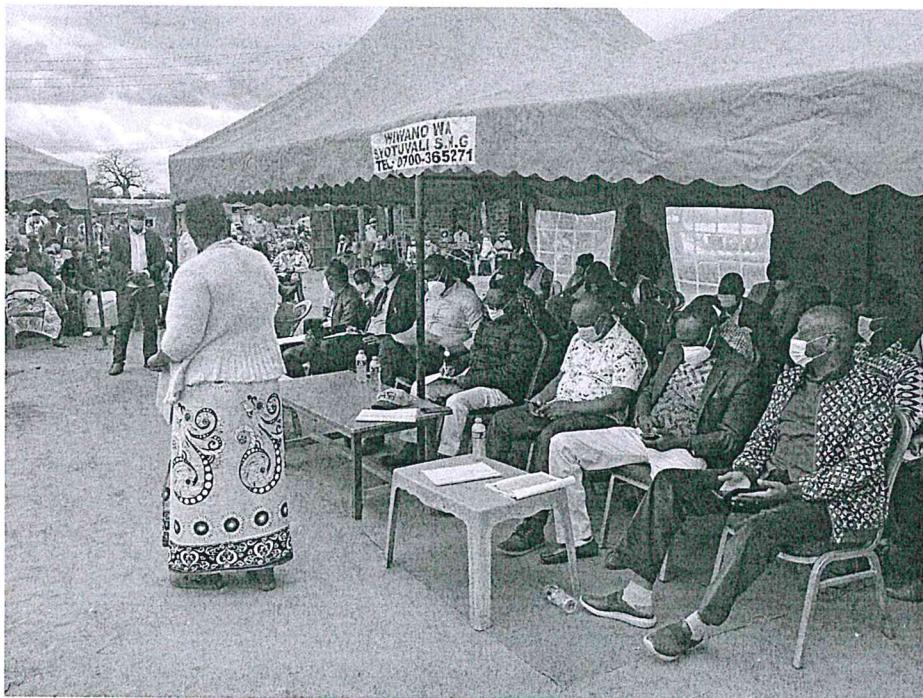
Submissions by Residents neighboring Thwake Dam, Makueni County

The Committee was informed as follows;

1. **Boundaries** – Demarcation of the boundaries was not clearly done. The residents informed the Committee that they needed to be shown the exact beacon boundaries and size of the land.
2. **Rock Blasting** – The Committee was informed that blasting was being done during the night and has caused damages and cracks to houses, physiological effects to the elderly and ailing residents residing next to the dam and school going children. Residents also raised the matter of dust from the blast affecting them and that considering it was being done at night, it was not visible during the day but the effects of the air pollution was greatly felt. The effects were also experienced in cattle with a lot of still births of calves.

Stones from the blasts hit houses that are far approximately 200M from the site with such an experience recounted by an elderly ailing lady who was at the Site meeting.

3. The Committee was also informed that as a result of the blasting, Ammonia gas is released to the air and to the streams nearby causing excessive pollution.
4. **Corporate Social Responsibility (CSR)** – The Community residing around the Dam was promised many CSR activities but they have since not received any. Some of these activities include; equipping of schools, a football field, bore holes, maintenance of roads being used by the Contractor and access to water. The only place with water in the area has a very deep gradient and the elderly and animals are unable to fetch water.
5. **Human Wildlife Conflict** – The area that the dam is situated in was a wildlife corridor and no buffer zone was created for wildlife and the residents fear that the effects will be felt by the locals with an increase in attacks by wildlife.
6. **Sanitation** – The Site workers dont dispose of masks safely despite the wake of the COVID-19 pandemic that is being experienced. School going children pick them and wear them posing a risk to them and the Community.
7. **Compensation to injured Workers** – Some of the community members who got hurt in the line of duty and were dismissed unfairly and haven't been compensated to date.





(Attached above are photos taken during the Committee's visit to Thwake Dam, Makueni County)

CHAPTER 5

COMMITTEE OBSERVATIONS

In accordance with the Prayers of the Petitioner the Committee observes that:

1. The Contractor on site confirmed that there is blasting going on at night and will continue for at least two more months.
2. The blasting is causing noise pollution and respiratory problems to the residents.
3. That National Environmental Management Authority indicated that the contractor on site had acquired all environmental licenses and permits necessary for dam construction. Further, NEMA informed the Committee that cracks in buildings had not been caused by the blasts and vibrations.
4. The Cabinet Secretary, Ministry of Water and Sanitation confirmed that blasting is restricted to daytime hours only in accordance with the blasting license issued by the Government that limits blasting hours between 6am-6pm while the measured vibration levels obtained from a seismograph installed on site are below the NEMA limit of 0.5 cm/sec.
5. The Committee noted that due to this, the Government through the CSR component of the project is implementing all the six (6) boreholes.
6. The Committee while at the site visit collecting views from the public observed that roads leading to the Dam have been severely damaged by the heavy trucks ferrying construction material to and from the Dam Construction site.

CHAPTER 6

COMMITTEE RECOMMENDATIONS

In accordance with the Prayers of the Petitioner the Committee that:

The Specific prayer by the Petitioner is that

The Senate intervenes to ensure that the contractor safeguards the residents living in the affected areas from devastating effects of the construction of the dam, not limited to the noise from the rock blasting.

The Specific prayer by the Petitioner is that:

The Senate intervenes to ensure that the contractor safeguards the residents living in the affected areas from devastating effects of the construction of the dam, not limited to the noise from the rock blasting.

The Committee therefore recommends as follows:

- 1. That all blasting occurs between 8.00 am – 6.00 pm in accordance with the blasting license issued by the Government. Further, NEMA ensures that the contractor on site adheres to all environmental licenses and permits necessary for dam construction.**
- 2. That the National Environmental Management Authority urgently investigates the houses around the dam to ascertain the level of environmental effects including the alleged cracked buildings caused by blasting in the dam and reports back to the Senate by 31st October, 2021. Should it be found that buildings were affected during the construction process, the Contractor be compelled upon to compensate all persons affected.**
- 3. That as per the Environmental Management and Co-ordination Act section 108, a restoration order to be issued once National Environment Management Authority (NEMA) ascertains the contractor on site to have caused any environmental damage during the construction process and a copy be sent to Senate within 30 days of tabling the Report in the Senate.**

4. The contractor on site ensures that they adhere to the Work Injuries and Benefits Act when dealing with all employees injured while on duty. Further, the Committee directs the Ministry of Water, Sanitation & Irrigation to find out whether anyone was hurt during the line of duty and that they are adequately compensated by the Company doing the Construction of the Dam.
5. The Committee urges the Ministry of Water, Sanitation and Irrigation to do follow ups and ensure that all the CSR activities promised for the Community is fulfilled.
6. NEMA require the Contractor to file Audit Reports on the blasts including and not limited to the level of noise and effects thereof.
7. NEMA causes an officer at Makueni County to be present during the blasts at the cost of the Contractor under the Polluter Pays Principle.
8. An urgent evaluation be undertaken, to confirm whether the Houses/ Residences along the periphery are affected by flying rocks, and urgent acquisition and relocation be done to forestall fatalities or injuries.
9. The Ministry of Water, Sanitation and Irrigation should ensure regular maintenance of the roads being used by the Contractor and watering of the earth roads is done continuously to reduce dust pollution. Further, at the end of the project, the Ministry should ensure that all roads that were used in the process are repaired and improved.

APPENDICES

ANNEX I: MINUTES OF THE MEETINGS

(Attached separately)

ANNEX II: SUBMISSIONS BY KEY STAKEHOLDERS

(Attached separately)

ANNEX I: MINUTES OF THE MEETINGS

MINUTES OF THE 53RD SITTING OF THE SENATE STANDING COMMITTEE ON LAND, ENVIRONMENT AND NATURAL RESOURCES HELD ON WEDNESDAY, 18TH AUGUST, 2021 AT SAROVA WHITESANDS HOTEL, MOMBASA AT 9.00 AM.

MEMBERS

1. Sen. Mwangi Paul Githiomi, MP
2. Sen. Philip Mpaayei, MP
3. Sen. Mwaruma Johnes, MP
4. Sen. Ndwiga Peter Njeru, EGH, MP
5. Sen. Boy Issa Juma, MP
6. Sen. (Dr.) Lelegwe Ltumbesi, MP

PRESENT

- **Chairperson**
- **Vice Chairperson**
- Member
- Member
- Member
- Member

ABSENT WITH APOLOGY

1. Sen. George Khaniri, MGH, MP - Member
2. Sen. Gideon Moi, CBS, MP - Member
3. Sen. Sylvia Kasanga, MP - Member

IN ATTENDANCE

1. Mr. Victor Bett
2. Mr. Crispus Njogu
3. Ms. Mitchell Otoro
4. Ms. Lucianne Limo
5. Ms. Farida Kinyua
6. Mr. Erick Njogu
7. Mr. John Pere
8. Mr. James Kimiti
9. Mr. Naftali Ondiba

SECRETARIAT

- Clerk Assistant
- Clerk Assistant
- Legal Counsel
- Media Relations Officer
- Personal Secretary
- Clerk Assistant
- Sergeant-At-Arms
- Audio Recording
- Finance Officer

MINUTE SEN/SCLNR/303/2021: PRELIMINARIES

The meeting was called to order at 9:00 am by the Chairperson followed by a word of prayer.

MINUTE SEN/SCLENR/304/2021: ADOPTION OF AGENDA

The agenda of the meeting was adopted after being proposed by Sen. Ndwiga Peter Njeru, EGH, MP and seconded by Sen. Boy Issa Juma, MP as follows

1. Preliminaries
2. Adoption of the agenda;
3. Confirmation of Minutes;
4. **Adoption of the following Petition Reports;**
 - (a) Draft Report of the Committee on the Petition regarding the adverse effects of rock blasting for the construction of Thwake Dam (Makueni Assembly Committee on Environment and Climate Change)
 - (b) Draft Report of the Committee on the Petition by residents of Utheri wa Lari on the alleged compensation of parcels of land acquired by the Government to pave way for the construction of the Standard Gauge Railway
5. Any other Business;
6. Date of the next meeting;
7. Adjournment.

MINUTE SEN/SCLENR/305/2021: CONFIRMATION OF MINUTES OF PREVIOUS SITTINGS

The Committee differed the confirmation of Minutes.

MINUTE SEN/SCLENR/306/2021: ADOPTION OF THE FOLLOWING PETITION REPORTS;

- (a) **Draft Report of the Committee on the Petition regarding the adverse effects of rock blasting for the construction of Thwake Dam (Makueni Assembly Committee on Environment and Climate Change)**

The Committee having investigated the matter in accordance with its mandate under the standing order 223 of the Senate Standing Orders, hereby **adopted its report** with the following recommendations in accordance with the Prayers of the Petitioner—

The Committee therefore recommended as follows:

- 1. That all blasting occurs between 8.00 am – 6.00 pm in accordance with the blasting license issued by the Government. Further, NEMA ensures that the contractor on site adheres to all environmental licenses and permits necessary for dam construction.**
- 2. That the National Environmental Management Authority urgently investigates the houses around the dam to ascertain the level of environmental effects including the alleged cracked buildings caused by blasting in the dam and reports back to the Senate by 31st October, 2021. Should it be found that buildings were affected during the construction process, the Contractor be compelled upon to compensate all persons affected.**
- 3. That as per the Environmental Management and Co-ordination Act section 108, a restoration order to be issued once National Environment Management Authority (NEMA) ascertains the contractor on site to have caused any environmental damage during the construction process, and a copy be sent to Senate within 30 days of tabling the Report in the Senate.**
- 4. That the contractor onsite ensures that they adhere to the work injuries and benefits act when dealing with all employees injured while on duty. Further, the Committee directs the Ministry of Water, Sanitation & Irrigation to find out whether anyone was hurt during the line of duty and that they are adequately compensated by the Company doing the Construction of the Dam.**
- 5. The Committee urges the Ministry of Water, Sanitation and Irrigation to do follow ups and ensure that all the CSR activities promised for the Community is fulfilled.**
- 6. NEMA to require the Contractor to file Audit Reports on the blasts, to include and not limited to level of noise and effects thereof.**
- 7. That NEMA causes an officer at Makueni County to be present during the blasts at the cost of the Contractor under the Polluter Pays Principle.**
- 8. An urgent evaluation be done, to confirm whether the Houses/ Residences**

along the periphery are affected by flying rocks, and urgent acquisition and relocation be done to forestall fatalities or injuries.

9. The Ministry of Water, Sanitation and Irrigation should ensure regular maintenance of the roads being used by the Contractor and watering of the earth roads is done continuously to reduce dust pollution. Further, at the end of the project the Ministry should ensure that all roads that were used in the process is repaired and improved.

The Report of the Committee was therefore adopted after having been proposed and seconded by Sen. Johnes Mwaruma, MP and Sen. Philip Mpaayei, MP respectively.

(b) Draft Report of the Committee on the Petition by residents of Utheri wa Lari on the alleged compensation of parcels of land acquired by the Government to pave way for the construction of the Standard Gauge Railway

The Committee having investigated the matter in accordance with its mandate under the standing order 223 of the Senate Standing Orders, hereby **adopted its report** with the following recommendations in accordance with the Prayers of the Petitioner—

The Committee recommended as follows:

1. The Kenya Railways Corporation submits to the Committee an updated compensation status report on the Nairobi - Naivasha SGR line traversing through the Utheri Wa Lari Land Registered as *Longonot/Kijabe Block 2 (Utheri wa Lari)* within Nakuru County by 31st October, 2021;
2. The National Land Commission submits to the Committee an updated report on the status of all compensations done during the construction of the SGR from Nairobi to Naivasha including pending payments that haven't been done to the Utheri Wa Lari Land Registered as *Longonot/Kijabe Block 2 (Utheri wa Lari)* with reasons thereof if any by 31st October, 2021.

The Report of the Committee was therefore adopted after having been proposed and seconded by Sen. Ndwiga Peter Njeru, EGH, MP and Sen. Philip Mpaayei, MP respectively.

MINUTE SEN/SCLNR/307/2021: ANY OTHER BUSINESS;

There was no other business discussed.

MINUTE SEN/SCLNR/308/2021: DATE OF NEXT MEETING;

The meeting was adjourned at 1.00 pm and the next meeting was scheduled for 18th August, 2021 at 2:00 pm

Signed: 

Date: 20/8/2021

SEN. MWANGI PAUL GITHIOMI, MP

**CHAIRPERSON, STANDING COMMITTEE ON LAND, ENVIRONMENT
AND NATURAL RESOURCES**

MINUTES OF THE 30TH SITTING OF THE SENATE STANDING COMMITTEE ON LAND, ENVIRONMENT AND NATURAL RESOURCES HELD ON FRIDAY, 28TH MAY, 2021 AT MAVINDINI WARD, MAKUENI COUNTY AT 12.00 NOON.

MEMBERS

1. Sen. Mwangi Paul Githiomi, MP
2. Sen. Philip Mpaayei, MP
3. Sen. Ndwiga Peter Njeru, EGH, MP
4. Sen. Mwaruma Johnes, MP
5. Sen. (Dr.) Lelegwe Ltumbesi, MP

PRESENT

- Chairperson
- Vice Chairperson
- Member
- Member
- Member

ABSENT WITH APOLOGY

1. Sen. Gideon Moi, CBS, MP - Member
2. Sen. Boy Issa Juma, MP - Member
3. Sen. George Khaniri, MGH, MP - Member
4. Sen. Sylvia Kasanga, MP - Member

IN ATTENDANCE

A. SENATORS

1. Sen. Mutula Kilonzo Jnr., CBS, MP - Senator, Makueni County

B. MINISTRY OF ENVIRONMENT AND FORESTRY

1. Mr. Rodney Omari - Ministry Parliamentary Liaison
2. Dr. John Chumo - CEO, NECC
3. Mr. Leonard Tambushi - County Director, NEMA-Makueni
4. Mr. Eric Kavutsi - Ag. Environment Secretary

C. LOCAL ADMINISTRATION

1. Ms. Catherine Njue - DCI
2. Mr. Martin Kangala - Sub-County Police Commander

D. PETITIONERS

1. Hon. Joseph Muema, - MCA, Mukaa Ward, Chair CA Environment Committee
2. Hon. Muthoka Mutunga Kyalo, - MCA, Kalawa Ward
3. Hon. Jonathan Kimongo - MCA, Mavundini Ward

(Members of the Public)

E. SECRETARIAT

1. Mr. Victor Bett - Clerk Assistant
2. Mr. Mitchell Otoro - Legal Counsel
3. Mr. James Kimiti - Audio Recording
4. Mr. John Pere - SAA

MINUTE SEN/SCLNR/166/2021: PRELIMINARIES

The meeting was called to order at 12.30 pm by the Chairperson followed by a word of prayer.

MINUTE SEN/SCLNR/171/2021: ADOPTION OF AGENDA

The agenda of the meeting was adopted after being proposed by Sen. Boy Issa Juma, MP and seconded by Sen. Gideon Moi, CBS, MP as follows –

1. Preliminaries – *Prayer and Introductions*
2. Adoption of the Agenda;
3. **Petition concerning the adverse effects of rock blasting for the construction of Thwake Dam, Makueni County.**
4. Any other Business;
5. Date of the next meeting;
6. Adjournment.

MINUTE SEN/SCLNR/172/2021: PETITION CONCERNING THE ADVERSE EFFECTS OF ROCK BLASTING FOR THE CONSTRUCTION OF THWAKE DAM, MAKUENI COUNTY;

• **Submissions by Residents neighboring Thwake Dam, Makueni County**

1. **Rock Blasting** – The Committee was informed that a lot of blasting is being done in the night and has since caused damages and crack to houses, physiological effects to the elderly and ailing residents residing next to the dam and school going children. The effects are also experienced in cattle with a lot of still births of calfs.

The committee was also informed that Ammonia gas is as a result released to the Air and to the streams nearby causing excessive pollution.

Stones after blasting travel far, hitting houses that are approximately 200M from the site with such an experience experienced by an elderly and unwell lady who was at the meeting.

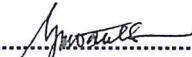
2. **CSR** – The Community residing around the Dam was promised many CSR activities and they have since not received any. Some include; maintenance of Roads being used by the Contractor and access to water. The only place with water has a very deep gradient the elderly and animals are unable to fetch water.
3. **Sanitation** – The Site doesn't dispose of Masks safely, especially during the wake of COVID period that is experienced; school going children pick them and wear them posing a risk to them and the Community.
4. **Compensation to injured Workers** – The Community has some persons who got hurt in the line of duty and were dismissed unfairly and haven't been compensated to date.

MINUTE SEN/SCLNR/173/2021: ANY OTHER BUSINESS

There was no other business discussed.

MINUTE SEN/SCLNR/174/2021: DATE OF NEXT MEETING

The meeting was adjourned at 2.00 pm and the date of the next meeting was to be held on 3rd June, 2021.

Signed:.....

Date:.....**23/6/2021**.....

SEN. MWANGI PAUL GITHIOMI, MP
CHAIRPERSON
STANDING COMMITTEE ON LAND, ENVIRONMENT AND NATURAL
RESOURCES

MINUTES OF THE 29TH SITTING OF THE SENATE STANDING COMMITTEE ON LAND, ENVIRONMENT AND NATURAL RESOURCES HELD ON FRIDAY, 28TH MAY, 2021 AT SYOTUVALI MARKET, MAKUENI COUNTY AT 10.00 AM.

MEMBERS

1. Sen. Mwangi Paul Githiomi, MP
2. Sen. Philip Mpaayei, MP
3. Sen. Ndwigwa Peter Njeru, EGH, MP
4. Sen. Mwaruma Johnes, MP
5. Sen. (Dr.) Lelegwe Ltumbesi, MP

PRESENT

- Chairperson
- Vice Chairperson
- Member
- Member
- Member

ABSENT WITH APOLOGY

1. Sen. Gideon Moi, CBS, MP
 2. Sen. Boy Issa Juma, MP
 3. Sen. George Khaniri, MGH, MP
 4. Sen. Sylvia Kasanga, MP
- Member
 - Member
 - Member
 - Member

IN ATTENDANCE

A. SENATORS

1. Sen. Mutula Kilonzo Jnr., CBS, MP
- Senator, Makueni County

B. MINISTRY OF ENVIRONMENT AND FORESTRY

1. Mr. Rodney Omari
 2. Dr. John Chumo
 3. Mr. Leonard Tambushi
 4. Mr. Eric Kavutsi
- Ministry Parliamentary Liaison
 - CEO, NECC
 - County Director, NEMA-Makueni
 - Ag. Environment Secretary

C. LOCAL ADMINISTRATION

1. Mr. Maalim Mohammed
 2. Ms. Catherine Njue
- County Commissioner
 - DCI

D. PETITIONERS

1. Hon. Joseph Muema, - MCA, Mukaa Ward, Chair CA Environment Committee
 2. Hon. Muthoka Mutunga Kyalo
 3. Hon. Jonathan Kimongo
- MCA, Kalawa Ward
 - MCA, Mavundini Ward

(Members of the Public)

E. SECRETARIAT

1. Mr. Victor Bett
 2. Mr. Mitchell Otoro
 3. Mr. James Kimiti
 4. Mr. John Pere
- Clerk Assistant
 - Legal Counsel
 - Audio Recording
 - SAA

MINUTE SEN/SCLENR/166/2021: PRELIMINARIES

The meeting was called to order at 11.13 am by the Chairperson followed by a word of prayer.

MINUTE SEN/SCLENR/167/2021: ADOPTION OF AGENDA

The agenda of the meeting was adopted after being proposed by Sen. Boy Issa Juma, MP and seconded by Sen. Gideon Moi, CBS, MP as follows –

1. Preliminaries – *Prayer and Introductions*
2. Adoption of the Agenda;
3. **Petition concerning the adverse effects of rock blasting for the construction of Thwake Dam, Makueni County.**
4. Any other Business;
5. Date of the next meeting;
6. Adjournment.

MINUTE SEN/SCLENR/168/2021: PETITION CONCERNING THE ADVERSE EFFECTS OF ROCK BLASTING FOR THE CONSTRUCTION OF THWAKE DAM, MAKUENI COUNTY;

• **Submissions by Residents neighboring Thwake Dam, Makueni County**

The Committee was informed as follows;

1. **Boundaries** – Demarcation of the boundaries was not clearly done. The residents informed the Committee that they need to be shown the exact beacons where the Dam's land reaches and the size.
2. **Rock Blasting** – The Committee was informed that a lot of blasting is being done in the night and has since caused damages and crack to houses, physiological effects to the elderly and ailing residents residing next to the dam and school going children. Residents also raised the matter of dust, affecting them and since it's done at night, one wouldn't see but the pollution to the air is greatly felt.
3. **CSR** – The Community residing around the Dam was promised many CSR activities and they have since not received any. Some include; equipping of schools, football field, bore holes and access to water.
4. **Human Wildlife Conflict** – The area the dam is situated in was a wildlife corridor and no buffer zone was created for wildlife and residents fear that the effects will be felt by the locals with increase in attacks by wildlife.


On visiting the Site the Committee was able to see the places where the contractor admitted to doing the blasts.

MINUTE SEN/SCLENR/169/2021: ANY OTHER BUSINESS

There was no other business discussed.

MINUTE SEN/SCLENR/170/2021: DATE OF NEXT MEETING

The meeting was adjourned at 11.49 pm and the date of the next meeting was to be held on thereafter at a different location.

Signed:.....

Date:.....**23/6/2021**.....

SEN. MWANGI PAUL GITHIOMI, MP
CHAIRPERSON
STANDING COMMITTEE ON LAND, ENVIRONMENT AND NATURAL
RESOURCES

MINUTES OF THE 22ND SITTING OF THE SENATE STANDING COMMITTEE ON LAND, ENVIRONMENT AND NATURAL RESOURCES HELD ON THURSDAY, 8TH APRIL, 2021 VIA ZOOM ONLINE PLATFORM AT 11.00 AM.

MEMBERS

1. Sen. Mwangi Paul Githiomi, MP
2. Sen. Philip Mpaayei, MP
3. Sen. Ndwiga Peter Njeru, EGH, MP
4. Sen. Mwaruma Johnes, MP
5. Sen. Sylvia Kasanga, MP
6. Sen. (Dr.) Lelegwe Ltumbesi, MP

PRESENT

- Chairperson
- Vice Chairperson
- Member
- Member
- Member
- Member

ABSENT WITH APOLOGY

1. Sen. George Khaniri, MGH, MP
 2. Sen. Gideon Moi, CBS, MP
 3. Sen. Boy Issa Juma, MP
- Member
 - Member
 - Member

IN ATTENDANCE

A. SENATORS

1. Sen. Mutula Kilonzo Jnr.
- Senator, Makueni County

B. MINISTRY OF WATER, SANITATION AND IRRIGATION

1. Mrs. Sicily Kariuki, EGH
 2. Eng. SAO Alima
 3. Eng. David Onyango
 4. Eng. Augustine Makau
- Cabinet Secretary
 - Water Secretary in the Ministry
 - Project Expert
 - Environmental Health Expert

C. SECRETARIAT

1. Ms. Veronica Kibati
 2. Mr. Victor Bett
 3. Mr. Mitchell Otoro
 4. Ms. Clare Kidombo
 5. Mr. Wilson Bosmet
 6. Ms. Lucianne Limo
 7. Mr. James Kimiti
- Clerk Assistant
 - Clerk Assistant
 - Legal Counsel
 - Research Officer
 - SAA
 - Media Relations
 - Audio Recording

MINUTE SEN/SCLENR/118/2021: PRELIMINARIES

The meeting was called to order at 10.20 am by the Chairperson followed by a word of prayer.

MINUTE SEN/SCLENR/119/2021: ADOPTION OF AGENDA

The agenda of the meeting was adopted after being proposed by Sen. Sylvia Kasanga, MP and seconded by Sen. Ndwiga Peter Njeru, MP as follows –

1. Preliminaries – *Prayer*
2. Adoption of the Agenda

3. Confirmation of Minutes of Previous Sittings;
4. **Consideration of the Petition concerning the adverse effects of rock blasting for the construction of Thwake Dam, in Makueni County**
 - Presentation by the Cabinet Secretary, Ministry of Water, Sanitation & Irrigation
5. Any other Business;
6. Date of the next meeting;
7. Adjournment.

MINUTE SEN/SCLENR/120/2021: CONFIRMATION OF MINUTES OF PREVIOUS SITTINGS

The confirmation of Minutes was differed to the next housekeeping meeting.

MINUTE SEN/SCLENR/121/2021: CONSIDERATION OF THE PETITION CONCERNING THE ADVERSE EFFECTS OF ROCK BLASTING FOR THE CONSTRUCTION OF THWAKE DAM, IN MAKUENI COUNTY

Presentation by the Cabinet Secretary, Ministry of Water, Sanitation & Irrigation;

Hon. Chair, Thwake Multipurpose Dam is a National Government Project undertaken by Ministry of Water Sanitation and Irrigation (MWSI) being constructed at confluence of Athi and Thwake rivers in Mavindini Division of Makueni District, Kalawa Division in Mbooni East Sub -County. It is an embankment dam with an approximate maximum height of 80.5 m covering an area of around 9,217 acres, with catchment spanning about 10,276 km², spreading into among other locations; Mavindini, Kanthuni, Kitise, Kithuki, Kathonzweni and Mbuvo. Part of the inundated area will be in Kanyangi locations in Yatta Division, Machakos County. The dam will store the flood flow from the Athi and the Thwake rivers and provide water supply for multipurpose use.

The Project is funded by GoK and development partners; and is supervised by an international firm of consulting engineers. The Contractor employed in the works is also an international contractor from China with wide experience in construction of such works. The construction process involves quarrying of rocks through drilling, blasting and transporting the same to the construction points.

Hon. Chair, to respond to the issues raised by the petitioner, I wish to inform the Committee that the Ministry has been aware of the environmental concerns of the community around Thwake Dam construction site since the commencement of construction in March, 2017, and has continuously ensured the implementation of remedial actions in compliance with environmental regulations and guidelines. This particular petition first came before the County Government of Makueni in the year 2019, where the issues raised by the petitioner were brought to the knowledge of the County Environment Committee (CEC) and deliberated accordingly.

At a meeting of the County Environment Committee held on 3rd September, 2019, issues surrounding Thwake Dam, among them, complaints on blasting of rocks were discussed (*Minutes attached, Annex I, MIN 2: 3/ 9/ 2019*) and a Technical

Committee formed to visit the Dam site and undertake further investigations. The Technical Committee visited the site on 5th September, 2019 and prepared a report on their findings (*Technical Committee Report Attached Annex II*). Key observations of the report were that the contractor had acquired all environmental licenses and permits necessary for dam construction, cracks in buildings had not been caused by the blasts and vibrations. In addition, they found that issues of sanitation and safety have been adequately addressed.

Hon. Chair, the County Commissioner held an Environment Committee meeting on 18th September, 2019 to discuss issues affecting workers and the community around the project area (*Minutes Attached, Annex III*). A follow up meeting, which was attended by the County Assembly Committee on Environment and Climate Change was held at the Dam site on 1st November, 2019 (*Minutes Attached, Annex IV*). During the meetings, environmental issues were raised, key among which were lack of access to water, dusty roads, noise pollution, vibrations, blasting without adequate warning (sirens) and falling rock debris after blasting.

The Environment Committee recommended that the project undertake the necessary measures to address the above community concerns and that frequent site visits be conducted to ensure the contractors implement them. Shortage of water in the vicinity of the Dam site was to be addressed by constructing six (6) boreholes, two (2) at Mavindini, two (2) at Mbooni and two (2) at Kalawa.

Towards this end, the Government through the CSR component of the project is implementing all the six (6) boreholes. Dust levels have been controlled by repairing road sections near schools and markets from the site to Kwa-Kamote Junction; approximately 3 km; in addition to watering haulage roads on site. The measured sound levels within 250 to 300 metres of the blast point has been found to be 108.1 dB(A) against a limit of 114 dB(A) in accordance with NEMA guidelines for mines and quarries.

Hon. Chair; Blasting is restricted to daytime hours only in accordance with the blasting license issued by the Government that limits blasting hours between 6 am-6pm, while the measured vibration levels obtained from a seismograph installed on site are below the NEMA limit of 0.5 cm/sec. This is safe and is tolerated by nearby humans and animals and cannot damage structures. A baseline survey conducted on 16th December 2020, at UNYEEO area prior to commencing blasting in the quarry near the area, established that many structures have cracks, which could not be directly linked to vibrations and were attributed to improper construction methods leading the defects.

Hon. Chair, to minimize cases of falling debris on houses or even injuring members of the public, blasting sites have been clearly marked with visible tape and warning signs erected to warn people of the danger. Blasting timetable is shared with the community in good time before blasting and commencement of blasting is announced via sirens loud enough to warn everyone of the impending blast. Residents very close to the quarries have been relocated to safer areas.

Hon. Chair, NEMA while on its routine inspection mission, conducted a site inspection on the project on 13th March, 2020 and issued an improvement notice to the proponent to undertake Environmental Audit which will provide more clarity on compliance level to the licensing conditions.

The County Environment Committee, in a meeting held on 10th November, 2020 resolved to make a joint site inspection to monitor the compliance level on the issues jointly agreed with the proponent during the Technical Committee site visit on 5th September, 2019 (Annex II).

The Environmental Audit and the joint site inspection visit would have made very useful tools to verify the level of compliance on the environmental and safety measures, however, the activities are yet to take place due to challenges posed by implementation of COVID-19 Public Health Guidelines and Government directive on measures to control the spread of the Pandemic.

In conclusion, Hon. Chair, the Government is very keen about the safety of its citizens during implementation of such projects and any deviation from this cardinal obligation is not tolerated and the Ministry of Water, Sanitation and Irrigation will not hesitate to sanction contractors who flout the rules. Further, in order to strengthen the implementation of the environmental and safety measures at Thwake Dam construction site, the project consultants under the guidance of this Ministry have prepared and ensured strict compliance with the Environment Health and Safety protocol on site. At the same time the Ministry, County Environment Committee, NEMA and other stakeholders will continue to closely monitor the implementation of the Environmental Management Plan and compliance to Environmental Impact Assessment license conditions.

Finally, the Ministry has established a Community Liaison position in the project that engages the community to ensure harmonious relations are maintained between the Community and the project for smooth implementation.

The Committee proceeded to make the following resolutions

1. The Committee noted that the Presentation by the Cabinet Secretary, Ministry of Water, Sanitation and Irrigation was an exact replica of what was presented by the Cabinet Secretary, Ministry of Environment and Forestry that was earlier presented to the Committee;
2. Conduct a site visit once the COVID-19 containment measures are relaxed; and
3. Request for the Noise Licensing and the ESIA Report so as to cross check whether they are in compliance.

MINUTE SEN/SCLNR/122/2021: ANY OTHER BUSINESS

- Sen. Johnes Mwaruma, informed the meeting that in 2018, he had requested for a statement on all projects being undertaken by the Ministry of Water, Sanitation and Irrigation. The Ministry was to get back with a more updated list with clearly projects per County but has since not returned any feedback. Further the CS, at the time assured the Senator that a Kshs. 300,000,000 project was in the Pipeline on Mzima 1, Taita Taveta County and he has since not received an update on the matter.

- The Committee asked the Ministry to share the information that has been raised by Sen. Johnes Mwaruma and a copy of the response shared with his office.

MINUTE SEN/SCLNR/123/2021: DATE OF NEXT MEETING

The meeting was adjourned at 11.17 pm and the date of the next meeting was to be held on Thursday, 15th April, 2021.

Signed:

Date: **30/6 /2021**

SEN. MWANGI PAUL GITHIOMI, MP
CHAIRPERSON
STANDING COMMITTEE ON LAND, ENVIRONMENT AND NATURAL
RESOURCES

ANNEX II: SUBMISSIONS BY KEY STAKEHOLDERS



MINISTRY OF ENVIRONMENT AND FORESTRY

MINISTERIAL RESPONSE BY THE CABINET SECRETARY TO A PETITION BY HON. MEMBERS OF THE MAKUENI COUNTY ASSEMBLY SECTORAL COMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE REGARDING ADVERSE EFFECTS OF ROCK BLASTING AT ONGOING CONSTRUCTION OF THWAKE DAM IN KALAWA AND MAVINDUNI WARDS IN MAKUENI COUNTY.

The Senate Standing Committee on Land, Environment and Natural Resources through letter Ref. No. SEN/DCS/LENR/2/2020/(70) dated 17th November, 2020 by the Clerk of the Senate invited the Cabinet Secretary, Ministry of Environment and Forestry to a meeting to respond to a Public Petition as follows:-

Public Petition

1. **THAT**, pursuant to article 119 (1) of the Constitution of Kenya, 2010, " Every person has a right to petition Parliament to consider any matter within its authority, including to enact, amend or repeal any legislation".
2. **THAT**, the County Assembly Committee on Environment and Climate Change (hereinafter the Committee) has concluded the matter of a request for a statement regarding the adverse effects of rock blasting at the ongoing construction of Thwake Multipurpose Dam in Kalawa Ward in Makueni County.

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02/12

3. **THAT**, the Committee has not been able to conclusively resolve the problem, since the project is funded and implemented by National Government affecting more than one County, hence the resolution to petition the Senate.
4. **THAT**, the construction of the dam involves a number of activities including rock blasting to obtain stones and rocks for construction use.
5. **THAT**, the construction activities at the dam, more so the rock blasting, have brought about a plethora of challenges and adverse impacts on the lives of the residents of the nearby villages.
6. **THAT**, the noise arising from the rock blasting activities have caused house and shops to crack hence weakening the structures and posing danger to the occupants of such structures.
7. **THAT**, flying rocks from blasting site end up hitting roofs of the nearby homesteads a case in point is the house of Mary Mwikali Kyali who her homestead is located barely 200 metres from the site.
8. **THAT**, the affected areas include but not limited to; Ndingi, Syotuvali Market, Kamutonye, Kitoto, Unyeeo, Ngomano, and Syongungi in Kathulumbi Location. Kalawa ward and Kyusyani, Miangeni, Kaseve, Katithi, Miksi and Mathangathi in Mavindini ward.
9. **THAT**, the Committee and the Department of Water, Sanitation, Environment and Climate Change of County Government of Makueni carried out site visits to the project

and to the areas affected on separate occasions on a fact finding mission.

10. **THAT**, the contractor provided contradicting information from what was gathered during the said site visits by the two independent parties. For instance, the contractor indicated that rock blasting was never done at night and yet in actual sense it was done and the contractor did not have a license for night rock blasting.
11. **THAT**, the Committee, the Department of Water, Sanitation, Environment and Climate Change of County Government of Makueni, the project Coordinator, Thwake Multipurpose Dam Project, Community Liaison, (representatives of SMEC Kenya Ltd. the project supervisors) and representative of the people from the two wards, held a consultative meeting at the project site on 1st November, 2019 to deliberate on the matter in which corrective measures to the effects of rock blasting were resolved and given timelines mostly to be undertaken by the contractor and others by the SMEC Community Liaison officer. The latest timeline was set to be 8th November, 2019 which has long passed and no efforts have been shown to effect the resolutions.

1.0 Background

Thwake Multipurpose Dam is a National Government Project undertaken by Tanathi Water Service Board (TAWSB) being constructed at confluence of Athi and Thwake rivers in Mavindini Division of Makueni District, Kalawa division in Mbooni East Sub-



County, and covering sections of southern part of Yatta division in Lower Yatta Sub-County. It is an embankment dam with an approximate maximum height of 84 m covering an area of approximate 2,000 ha, with a catchment spanning about 10,276km² spreading into among other locations Mavindini, Kanthuni, Kitise, Kithuki, Kathonzweni and Mbuvo. Part of the inundated area will be in Kanyangi locations in Yatta division (Lower Yatta Sub-County). The dam will store the flood flow from the Athi and the seasonal Thwake rivers and provide water supply for multipurpose use.

The environmental complaints and other issues were raised by the communities around the project area in 2019.

Response to the Issues raised by the petitioner

Hon. Chair, I take note of the issues raised by the County Assembly (hereafter the petitioner) and I wish to respond as follows:-

1. The Ministry through the National Environment Management Authority (NEMA) is aware of the issues raised. NEMA has coordinated other relevant stakeholders to address the issues and is continually doing so since the project is still ongoing.
2. **THAT** the issues raised by the petitioner were brought to the knowledge of the County Environment Committee (CEC) and deliberated accordingly.
3. **THAT** in a County Environment Committee meeting held on 3rd September, 2019 deliberated on the issues surrounding Thwake Dam, among them, complaints on blasting of rocks

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(Minutes attached, Annex I MIN 2: 3/9/2019) and established a technical committee to visit the site and investigate on the issues raised

4. **THAT** the Technical Committee visited the site on 5th September, 2019 and prepared a report on that course **(Technical Committee Report Attached Annex II)**.
5. **THAT** the technical committee which visited the site on 5th September found that the contractor has acquired all the relevant documentation and also addressed issues of sanitation and safety.
6. **THAT** the committee **did not** also establish the cracks in buildings as claimed to have been caused by the blast and vibrations.
7. **THAT** another Environment Committee chaired by the County Commissioner was held on 18th September, 2019 and issues affecting workers and the community around the project area were discussed and addressed in the meeting **(Minutes Attached, Annex III)**.
8. **THAT** on 1st November, 2019 a County Environment Committee meeting was held at Thwake Dam and the Hon. Members of the County Assembly Committee on Environment and Climate Change were invited and participated in the meeting **(Minutes Attached, Annex IV)**.
9. **THAT** on 13th March, NEMA conducted a site inspection on the project site and issued an improvement notice to the proponent to undertake Environmental Audit which will provide more clarity on compliance level to the licensing condition. **(Copy attached Annex V)**.

X 02/12

10. **THAT** the recommendations made by the Technical Committee on its report (**Annex II**) and the joint meetings held on **1/11/2019 (Annex IV)** were not fully implemented due to COVID-19 Public Health Guidelines and Government directive on measures to control the spread of the pandemic and there were no other physical meetings held from December 2019 until 10 November, 2020 when the first CEC meeting for 2020/2021 was held.
11. **THAT**, the County Environment Committee, in a meeting held on 10th November, 2020 resolved to make a joint site inspection to monitor the compliance level on the issues jointly agreed with the proponent during the Technical Committee site visit on 5th September, 2019 (**Annex II**).
12. **THAT** the Ministry through NEMA will continue to closely monitor the implementation of the Environmental Management Plan and compliance to Environmental Impact Assessment license conditions.
13. The Ministry will involve relevant lead agencies to ensure the ongoing project is implemented while ensuring sustainable environmental management.

Thank you, Chair.


Keriako Tobiko, CBS, SC
Cabinet Secretary
Ministry of Environment and Forestry


02/12/2020

Annex I


MINUTES OF THE COUNTY ENVIRONMENT COMMITTEE MEETING HELD ON TUESDAY 3RD SEPTEMBER 2019 AT HOTEL LE PANDA, AT 10: 00 AM.

PRESENT


1. Hon.bob kisyula - CE, Nrm, Environment and Climate Change- Chairman
2. Mary M. Mbenge Co, Nrm, Environment And Climate Change
3. Abdishakur Abdisalan Sheikh - Nema /Environment officer –Secretary
4. J.M. Muthaisu Director Sand authority
5. Jafferesson Kittu KFS
6. Faith Moses Adminstrator Seku
7. Fred Wakaba CDA/Ndma
8. Lydia Muithya ADSE--Program Officer
9. Rodgers S. Wahungu Director Housing
10. Raphael Maundu county co-ordinator,Tarda
11. Jackline kamusa ED
12. Alice kwamboka Lands.
13. Patrick Nyakundi Information
14. Ruth Mwongeli MCG, economist
15. Constance Mwasho County warden KWS.
16. Joseph Otieno Judiciary.
17. Henry Kivuva DPT of health.
18. Halinish Yussuf Managing Director, Sand Authority.
19. Kelvin Mutua EIA/EA officer.
20. Daniel Ngoka CEC member
21. Anastasia Nelanu Cec Member
22. Paul Mbulu Cec Member
23. Jeremiah Ngaya Cec Member
24. James Mukoti Cec Member


	BY WHO	BY WHEN
Agenda <ol style="list-style-type: none"> 1. Preliminaries 2. Compliance of Thwake multipurpose dam. 3. Way forward. 	Chairman	
Min 1: 1/9/2019 : Preliminaries <p>The Chair called the meeting to order and the meeting started with a word of prayer by Lydia Muithya at 10:05 AM. Self-introduction of the new members followed. The chair thanked all members for their attendance followed by a briefing on the issues that the committee needs to address.</p>		
Min 2: 2/9/2019: Environmental Compliance of Thwake multipurpose dam <p>The chair mentioned the issues that were surrounding Thwake dam in the past as follows:-</p> <ul style="list-style-type: none"> • Dust issues affecting communities and schools surrounding the site • Waste management/lack of sufficient sanitation facilities for workers. • Blasting issues in Kalawa and Mavindini not complying with standards. • Athi-river pollution. <p>The chair informed the members that he had constituted a technical committee led by Jackline to visit the site and make a report on the issues. He then invited Jackline to brief the committee on their findings and recommendations.</p>		

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<p>Min 3: 3/9/2019: Findings and recommendations by the technical committee.</p> <p>It was found that the contractor:-</p> <ul style="list-style-type: none"> • Has a license for blasting activities from the ministry of petroleum and mining. • Has a license from NEMA. • Has done an environmental audit. • Blasting is taking place in four areas, the quarries, the spill way, approach and outlet channels and the guard hole. • Interview with HSE manager also revealed that they had done approximately 500 blasting's. The manager also claimed the noise produced to be at 110 dB but this can't be confirmed since there was no record. • The HSE has also done two community awareness. • No accidents were reported according to the HSE manager. • Community participation carried by EIA team at Syotuvali revealed discrepancies between HSE manager and the communities. i) The communities claimed the blasting was taking place at night also contrary to the license conditions but the HSE manager denied those claims. ii) The communities also claimed the sirens were not sounded to warn them of the impending blasts. • The team also confirmed crack on the structures of communities living 2 kilometres away from the blast site. • Reports of weak and elderly people falling from the blast and vibrations were also noted. • There was also emission of noxious gases. • The technical team also learnt that the proponent was not monitoring:- <ul style="list-style-type: none"> ▪ The level of the noxious fumes ▪ The level of noise and vibrations ▪ The pre-blasting conditions survey of structures was not conducted in Kalawa ward. ▪ All concerned and affected parties were not consulted during the public participation for the EIA process. ▪ Proponent was not adhering to the time frame given in the license condition. ▪ The contractor was not adhering to the air quality regulations indicated in the license conditions. <p>Recommendations that were given by the technical team:-</p> <ul style="list-style-type: none"> ➤ To have a meeting with the project consultant and the contractor. ➤ Contractor to carry pre-blasting conditions survey of all structures that are surrounding the site. ➤ The contractor to carry out community awareness blasting for all communities. ➤ Contractor to map levels of noise and vibrations. ➤ Contractor to monitor levels of noise and noxious gases. ➤ Contractor to adhere to the time schedule for blasting ➤ Directorate of environment and NEMA to carry out subsequent monitoring. 	<p>Jackline County EIA officer</p> 	

<p>Min 4: 4/9/2019: Members comments on the findings.</p> <p>The members raised concerns on the findings and requested the chair to revitalize the responsibility of the committee and take an immediate cause of action. One of the member from the county also pointed out that these kinds of national projects posed to them serious challenges as they are were overlooked by the contractors.</p> <p>They complained that the Chinese were neglecting their concerns and telling county officers to disengage from national projects. Some members also accused Nema of negligence on Thwake issues and failing to monitor the adherence of the project contractors to the license conditions. The chair asked Nema officer to respond to this matter. The officer stated that the Authority was following on Thwake issues and was never negligent to the concerns of the communities affected. He mentioned that the Nema director of environment was constantly engaged with the project steering committee and advised them on the improvement of their compliance. He also stated that the project monitoring required a multi-agency approach as some of the mentioned issues such as noise and solid waste were devolved and therefore fell within the mandate of the county government.</p> <p>After along deliberation, the chair urged Members to come to consensus and also proposed to create a new technical committee to make a visit and come with a fact based report for discussion on Wednesday 09/09/2019.</p>	All members	
<p>Min 5: 5/9/2019: Way forward</p> <p>The committee agreed to Form a technical committee to visit the site on Thursday 5th 2019 and will:-</p> <ul style="list-style-type: none"> ➤ Establish all the provisions on the environmental documentation and confirm if there are violations. ➤ Inspect the sanitation standards. ➤ Ensure whether Safety measures such as the PPE's, sirens and warning posts and signals are adopted and kept in place. ➤ Identify the cracks resulting from the blasting and vibration activities. <p>After creating the technical committee and pointing out the TORs, the chair asked madam Lydia to conclude the meeting with a word of prayer and the meeting was adjourned at 2.00 pm.</p>	All members	

Approved for circulation  Date: 5th Sep 2019
Chairman

Confirmed during meeting  Date: 5th Sep 2019
Secretary



Annex II

SITE VISIT REPORT BY TECHNICAL COUNTY ENVIRONMENT TECHNICAL COMMITTEE ON THWAKE MULTIPURPOSE DAM ON 5TH SEPTEMBER, 2019

Background & Objectives:

Following a County Environment Committee meeting held on 3rd September 2019, a technical committee was formed to carry out inspection on the Environmental Compliance of Thwake Multipurpose Dam and report back the findings by 11th September 2019 to the main committee.

Technical Committee Members are as follows;

- Faith Moses – representative SEKU / NEMA lead Expert
- Daniel Ngoka- CEC gazzeted Member
- Henry Kivuva- County Public Health Officer
- Abdishakur Abdisalan sheikh- County Environment Officer NEMA
- James Mukosi- CEC gazetted Member
- Jackline Kamusa- EIA officer – Makueni County Government
- Rodgers Wakhungu- Director National Housing
- Alice Kwamboka- Planning Officer – Makueni County Government

The Terms of Reference for the assignment are as follows;

- Visit to the proposed Thwake Multipurpose Dam construction site.
- To check all Environmental Documents and licenses
- To establish compliance to relevant legal instruments
- To evaluate safety measures that have been put in place
- To evaluate sanitation and Health measures that have been put in place
- To check Environmental impacts and mitigation measures
- Check on the measures put in place to ensure a healthy and safe Environment for workers and people living around the site.

Site visit

The team visited the site Thursday 4th September 2019 and come up with the following findings;

1. Documentation

- The contractor has conducted an Environmental Impact Assessment for blasting activities; NEMA/PR/5/2/19956(PSR/11429) and consequently issued with a license (No; NEMA/EIA/PSL/6858).
- The contractor obtained has obtained Authority to conduct blasting permit from Ministry of Petroleum and Mining.
- An Effluent Discharge License is available.
- An initial Environmental Audit for the project was prepared and submitted to NEMA (Copies attached)

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Technical team having discussions with the HSE department Thwake Dam

2. Compliance with Legal framework

a) Environment Management and monitoring Plan

- The proponent does not monitor the level of noxious fumes
- The contractor does not monitor the levels of vibrations
- From the records availed the contractor started monitoring the levels of noise from 24th July 2019 to date. (After the strike)
- Pre blasting conditions survey of structures was conducted for 6 households in Mavindini Ward. A post-assessment will be done after the blasting period to the surrounding household structures to ascertain the destruction by blasting vibrations and if need be compensation will be done. Report attached.
- Workers around the site have Personal Protective gear
- All affected parties and communities were not consulted during the public participation

b) Blasting License conditions

- The proponent has not adhered to Air quality regulations by not monitoring the level of noxious fumes.
- The contractor is mitigating the dust impacts by watering the site and up to 800m from the barrier.

c) Noise and excessive vibration pollution regulations (2009)

Some household are less than 2 Kilometers from Quarries and designated areas for blasting

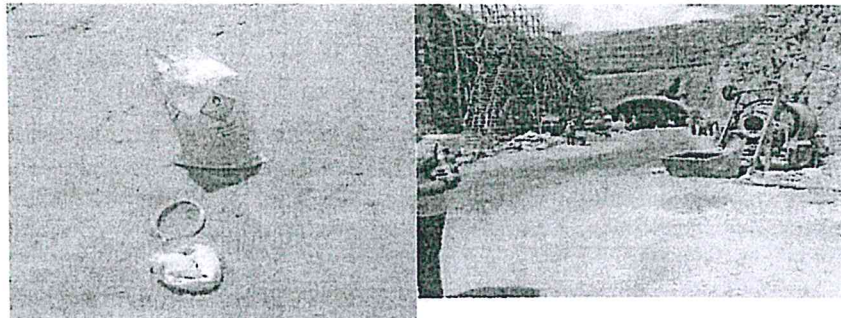
3. Environmental Impacts

a) Blasting and Vibrations

- Blasting is conducted at the quarries, spillway, approach and outlet channels, guide hole, dam's toe plate etc.
- The blasting lasts approximately 2 seconds.
- All blasters at the site are licenced by the Ministry of Mining and Petroleum

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- Since January, 2019 they have blasted approximately 500 times covering over 2000 holes.
- The blaster keeps records indicating the amount of explosives used, no of holes and date. The records does not include actual time,
- The blasting noise ranges from 84.6- 112.5 decibels within a distance ranging from 150M and 216M according to blasting records from HSE department dated 24th July 2019 to 4th September 2019.



Materials used for blasting.

Blasting is taking place majorly around the tunnels.



Drilling holes for blasting

b) Dust

The nearby schools along the transportation routes to the site for example katithi secondary school have been affected by dust.

c) Defects on housing structures

From the mapped houses report by the contractor, there is evidence of cracked houses. The cracks cannot be ascertained if they are as a result of blasting. The contractor was to conduct a visit to monitor the cracks after a month (from 3rd July 2019). The visit was not done.

Mapped houses

- i. Samson Ngoma
- ii. Kwa Katilu
- iii. Kwa Katheu
- iv. Kwa Ngovi
- v. Kwa Sila home
- vi. kwa sila rentals

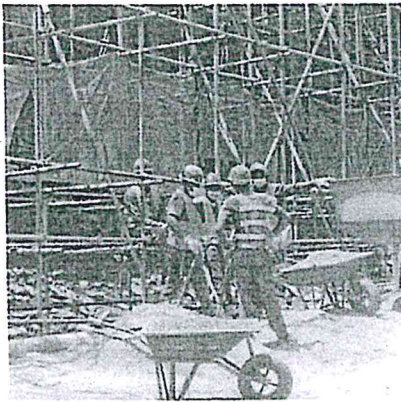
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4. Community Awareness

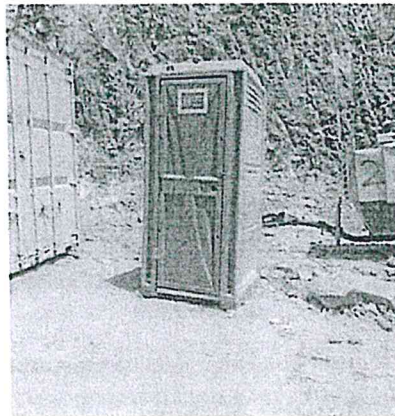
- Two community sensitization forums on impacts of blasting were undertaken for residents of Mavindini ward on 5th December 2018 and 13th December 2019. (Copies of attendance lists attached below)
The awareness was inadequate.

5. Safety

- No accidents so far have been recorded regarding blasting operations at the site
- The contractor conducts a revolving siren at three different areas (at the gate barrier, the exact place the blasting is been done and bridge 1). From the visit on 11th September by the CEC committee, the siren was not audible from a distance of approximately 800M.
- The blasters at the site, restrict movement of people, machines, animals and vehicles at all entry roads for the period the blasting is taking place.
- All working personnel at the site are restricted to stay away at least 200 metres from the blasting points which is the safe radius.
- The contractor has displayed safety rules at the various places at the site.



Workers with PPEs



Sanitation

6. Sanitation

- The site has approximately 7 blocks of toilets with different compartments and 8 mobile toilets (where it is inconvenient to construct)
- They have provided portable drinking water points at strategic locations.
- The site has resting shades strategically located.
- The site has dustbins in different locations.
- The site has designated septic tanks in different location for liquid waste management to safeguard that no effluent has been discharged to the river.

Recommendations

- The contractor to map out the vibration levels; the data presented should include; number of people located in the exposed area, number of structures, health facilities, education facilities exposed, vibration level and extent and mitigation measures starting from 9th September 2019.

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- The contractor to carry Pre blasting conditions survey of structures within the radius established during mapping and any other area that impacts may be identified and periodic monitoring of structures.
- The contractor to carry out frequent community awareness for all the three wards (Mavindini, Kalawa and Kanyangi) for blasting and any other Environmental issue that may arise starting from 9th September 2019. Share the schedule with Environment Directorate.
- The contractor to start monitoring of noxious gases of every blast and ensure the levels is within the standards set in Air quality regulations first schedule.
- The noise and vibration monitoring report should include; location of blast within the site, distance to affected structures and boundary of noise sensitive areas, meteorological conditions(temperature, relative humidity, wind speed and direction), peak particle velocity, air blast overpressure level, maximum instantaneous charge, time and date.
- The contractor to adhere to the time scheduled in the license for blasting.
- Environment Directorate and NEMA to conduct monitoring at least once per month on Environmental Compliance.
- Dust minimization on the roads along the 2 schools that heavily affected by dust from the transportation routes to the site by watering or applying murram.
- Set a date before end of October to meet the consultant to discuss the recommendations and timelines.

6 cs

- Environment Directorate and NEMA to conduct monitoring at least once per month on Environmental Compliance.
- Dust minimization on the roads along the 2 schools that heavily affected by dust from the transportation routes to the site by watering or applying murram.
- Set a date before end of October to meet the consultant to discuss the recommendations and timelincs.

Report prepared by the technical team

Name.....FAITH MOSES..... Date.....11/09/2019..... Signature.....[Signature].....

Team leader

Adopted by the County Environment Committee on 11th September 2019

[Signature]

Annex III

COUNTY ENVIRONMENT COMMITTEE MEETING	LOCATION OF MEETING: COUNTY COMMISSIONER'S BOARDROOM.
Date of Meeting 18 TH Sep, 2019.	Meeting chaired by: County Commissioner: Makueni county Minutes by: Abdishakur Abdisalan/ EO -NEMA
PURPOSE OF MEETING: ATTENDED BY:- <ol style="list-style-type: none"> 1. M.A MAALIM - CC- MAKUENI - CHAIRING 2. MARY MBENGE - CO ENV. & CC 3. FLORENCE OBUNGA - INTERIOR 4. CHARLES K. LABOSO - INTERIOR 5. J.G. KAMAU - INTERIOR 6. H.A HUSSEIN - INTERIOR 7. ORAMBUI NYAKWARA -DCC -KIBWEZI 8. ENOCK NYARANGO - DCC -KATHONZWENI 9. KIBE MAGUTA - DCC MBOONI WEST 10. REBECCA NDIRANGU - DCC -KILUNGU 11. RICHARD OGWOKA - DCC MBOONI EAST 12. DANIEL MBUVI -CDC - NDMA 13. JACKLINE KAMUSA - GMC 14. KITTI JAFFERSON -EC-KFS 15. ODHIAMBO DOUGLAS - NIS 16. SOUD R. SOUD - CPC-PRISONS 17. PATRICK M. NYAKUNDI -INFORMATION 18. GREGORY IMUU - HOUSING 19. RAPHAEL MAUNDU -TARDA 20. MIRIAM MUTUKU - RC- KWTA 21. WILSON K. MWALLI -CI-CIPU MKN 22. JAMES M. GACHUNGI -CDE- MKN 23. ABDISHAKUR ABDISALAN - NEMA - SECRETARY. 	

ANNEX III

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Agenda

1. Opening Remarks
2. Confirmation of previous minutes.
3. Environmental impact assessment compliance.
4. Thwake multi-purpose dam.
5. RRI on EDL
6. Plastic ban enforcement progress.
7. Protection of riparian areas
8. Reports from sub-counties.
9. A.O.B

NOTES OF MEETING: DESCRIPTION OF DISCUSSION

MIN.1: 1/18/09/2019:

OPENING REMARKS.

The meeting was called to order at 9:30 am and the chair requested one of the members to open with a word of prayer. A brief introduction from the members followed. The chair stated that we had our first meeting after the executive order on 1st February which ordered Minimum meetings be held quarterly. The order also required DCC's to form sub-county environment committees. He mentioned that the county environment committee has been reconstituted and synergy is required between the two levels of government for the good of Makeni county and the country in general. He referred to the difficult situation in Makeni county currently as a result of the prevailing drought and the need to look into issues of environment and conservation as priority.

The Chair also referred to EMCA 1999 and the right of citizens to a clean and healthy environment.

He mentioned environmental and social issues surrounding Thwake dam in the recent past but maintained that progress is going well and over 25 % achievement realized. He also stated that the workplace environment for the workers has been improved, Noise pollution and odd hours of blasting were the main issues and the concern was taken seriously to be addressed.

The CC also raised an issue of contaminated bottled water served to them at Emali and urged members to take measures on the quality and safety of consumer product in the absence of KEBS as the government machinery is in place.

BY WHO

Chairman

BY WHEN

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<p>MIN.2: 2/18/09/2019: CONFIRMATION OF PREVIOUS MINUTES. The chair took members through the previous minutes. He then asked Nema and the county government to brief members on the progress achieved in the implementation of the ten minimum points. Chief officer- environment and climate change Solid waste management</p> <ul style="list-style-type: none"> • Mentioned that the management of solid waste was transferred to the county government late last year from the department of health as the directorate was not functional until then. • Since its formation, the directorate has employed a total of 454 market cleaners in 84 markets. Only salaries were instituted and they didn't have equipment's to do the clean-up. They relied on basic equipment's transferred from old county council of Wote. • There were no skips and skip loaders. • Proposal to acquire the resources were submitted to the county assembly but financial resources to address this not acquired still. • County government is also engaging other donors and the proposal is still under review. CO to submit details of the proposals to the committee members for review. • Cleaning is currently done in 84 markets but there are still more markets not cleaned due to budget restraint, but awareness will be done for monthly clean up to address other markets that were not considered. • Strategic plan for solid waste management is being undertaken currently and it's on the final stages for submission to the county assembly for sensitization and approval. • Audit is being done to assess the quantity of solid waste produced in the county which will help in the creation of a plan for recycling and number of dumpsites requiring demarcation. <p>Liquid waste management</p> <ul style="list-style-type: none"> ❖ The is no proper sewage system in place currently ❖ But feasibility study for a sewer system was done and donor funding being sought since the project is expensive. ❖ A design for a decentralized fecal treatment facility was done last year but resources still not acquired for implementation. <p>Members reactions and clarification</p>	<p>Chairman</p> <p>CO</p>
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- Clarification on a political statement purporting that the UK government was funding a sewage system for Wote at the cost of 600 million.
- Some markets like Matiliku lacked absolutely most basic measures for waste management.
- Dumping sites in Wote town affecting river Kaiti when it rains.
- Proposed asbestos disposal site in Kibwezi disrupted by the local community.

CHIEF OFFICER

- ↓ Department of land tasked to do a plan on the dumpsites
- ↓ Public community in Matiliku have also prioritized a dumpsite and contributed a budget of one million. County government will be transferring the 1 million to the department of land for demarcation of the dumpsites.
- ↓ County government have not received the 600 million shillings claimed to be set for Wote and the CG cannot approve credibility of the source.
- ↓ On the issue of dumping waste into the river, the county government doesn't have trained inspectors but is coordinating with NEMA to organize for a training and also help in prosecution.

Kivale forest progress

- ↓ Community forest association was initiated for Mbooni forest station.
- ↓ The association was registered and it is planned and expected to be launched officially by the CS environment and forestry.
- ↓ There is a plan to create CFA's for the remaining four forest stations (Makuli, Nthangu, Kilungu and Kibwezi forest stations).

Harmonizing the CEC Meetings

The chair mentioned that CEC meetings were previously a county domain until the presidential directive came into order. He requested the chief officer on how the two committees can be harmonized for the public good. The CO agreed to the suggestion of the chair.

Chief officer also mentioned problems of noise pollution from Matatu's and churches, she requested the help of the committee in the prosecution of legal matters.

Food Security and Water.

The chair read to the members on the status of food security and water.

CO

WRA

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<p>In July and August, relief food was given to all the sub-counties in Makueni county. 700 bags of maize, 350 bags of beans, 200 bags of rice and 50 cartons of cooking oil were delivered. All the stock were not received but the sub-counties have reported getting the food.</p>	KPC	
<p>MIN 3: 3/18/09/2019: ENVIRONMENTAL IMPACT ASSESSMENT COMPLIANCE.</p> <p>The secretary mentioned that it is a requirement for all projects specified in the second schedule of EMCA 1999 to be subjected to EIA. He requested the county government to cooperate and comply in the projects carried out in their name.</p> <p>Members also requested NEMA to monitor the proponents on the implementation of EMP (environmental management plan) and adherence to license conditions.</p> <p>CC- With scarcity of water in the county, requested the county government to initiate a policy of water harvesting be included in development project.</p> <p>CO- replied that the issue is addressed through a committee called land processing committee which will not approve for projects that don't have water harvesting, green space and how waste is managed.</p> <p>DCC's – requested copies of EIA reports to be shared/dispatched on time so as to ascertain if the projects are meeting the obligations.</p> <p>DCC Kilungu- asked follow up on compliance be done especially with the lifting of the ban on mining, NEMA to ensure restoration is done to avoid further degradation.</p>	WRA	
<p>MIN.4: 4/18/09/2019: THWAKE MULTI-PURPOSE DAM</p> <p>The chair stated that;</p> <ul style="list-style-type: none"> ↓ There were concerns on the part of the workers and the community. ↓ He visited the site on 30th of July 2019 with a Multi-agency team to meet the stakeholders to discuss the concerns of the workers and the community. ↓ Issues addressed include; <ul style="list-style-type: none"> • Provision of drinking water and sanitation facilities to the workers. • Watering the roads to reduce the dust. • Providing access roads to athi-river for the community. • Safety issues such as PPE'S and erection of bumps to reduce speed of vehicles. 	KPC	

The secretary was then asked to brief members on the findings made by the technical committee that visited Thwake on 5th Sep 2019. It was found that the contractor has acquired all the relevant documentation and also addressed issues of sanitation and safety (details provided in annex 1). However, it was also established that the contractor was not monitoring the levels of noxious fumes and vibration levels. Based on the aforementioned observations, the committee then gave recommendations to the contractor to upgrade their compliance (also available in annex 1).

Secretary –

- The committee did not also establish the cracks in buildings claimed to have been caused by the blast and vibrations.
- Mentioned the lack of awareness to the community and requested the county and national government structures to help in awareness.

CG

- Contractor already started organizing for community awareness
- Complaints were coming from Kalawa side as the communities there were not sensitized and the contractor is mobilizing sensitization for Kalawa community.

DCC Mbooni

- Allowed chiefs and assistant chiefs of Kalawa and Kathulumbi to include awareness in their barazas.
- Also requested MCA's to attend this kind of big meetings since they are the one's influencing the community in some aspects.

The chair;

- Said that no one will be allowed to compromise the welfare, health and safety of Kenyans
- Told members that Thwake issues were also addressed in the county development implementation coordination committee chaired by himself which was formed January this year (2019).
- Advised people not to undermine projects that are coming to benefit the people. Stated that 5 years down the line, the project will be having significant positive socio-economic impacts on the people of Makueni County.
- Promised to continue resolving the concerns of the people.

CO-ECC

Chairman

MIN.5: 5/18/09/2019: RRI On Effluent Discharge License

<p>RRI was launched to increase the compliance of facilities and institutions to the water quality regulations of 2006. Several facilities have been inspected and brought to compliance. The target facilities for the RRI was mentioned as follows:-</p> <ul style="list-style-type: none"> ➤ Hospitals and dispensaries ➤ Filling stations ➤ Slaughter houses ➤ Large agro-chemical farms ➤ Residential apartments ➤ Hotels and lodges etc. <p>NEMA mentioned that many facilities have complied since the inception of the RRI and many are in the process of acquiring the EDL. However, it requested the help of the committee in enforcement areas.</p> <p>DCC Nzai- Nema to visit the slaughter house of Emali and inspect the disposal system.</p> <p>MIN.6: 6/18/09/2019Plastic ban enforcement</p> <p>Plastic ban enforcement progress has been going well in the county. Nema requested the administrative structures of the government to provide support in realizing full eradication of plastics in Makueni county.</p> <p>CC- all members have a role to play in enforcing this ban. DCCs to inform the chiefs to enforce the government policies to the latter.</p> <p>CO- requested that more sensitization be made so that people can become aware of the policies in place. Nema can use county government media- NFA to sensitize the public before the crackdown.</p>	<p>Secretary</p>
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MIN.7: 7/18/09/2019: PROTECTION OF RIPARIAN AREAS

Threats of desertification currently facing Makueni county and there is need to increase cooperation in conservation matters. Tree felling along river banks reported last week in Kilala area.

EC- Investigation and follow-up will be done.

Secretary

MIN.8: 8/18/09/2019: REPORTS FROM SUB-COUNTIES

DCC-Mbooni east

- o Sub-county environment committee has been constituted.
- o Three forest blocks in Mbooni easts and CFA's are managing the blocks.
- o Mentioned problems of waste disposal, slaughter house and conflict of land use in the town.
- o No enough personnel in public health.
- o Sanitation issues and water scarcity in Mbooni.

DCC- Mbooni west

- o Sub-county environment committee not wholly constituted.
- o Ad hoc meetings held on Kivale issues.
- o To fully constitute the committee by next week.

DCC- Kilungu

- o Committee was constituted but membership was a challenge.

DCC- Kathozweni

- o Sub-county environment committee was formed.
- o There are sanitation issues at Kathonzweni markets
- o Problem of water as the main source of the water for the town is running out.

DCC- Kibwezi

- o Encroachment on water sources leading to dry up of streams.
- o Problems of Noise pollution in Kibwezi especially from churches.
- o Back-up required in terms of food security due to the long rains felling short.

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<p>DCC- Mukaa.</p> <ul style="list-style-type: none"> ▪ Committee fully constituted ▪ One meeting was held and the only issue was sand harvesting which is well regulated now. <p>DCC- Makindu</p> <ul style="list-style-type: none"> ▪ Committee fully formed and four meetings were held since. ▪ Committee was very instrumental during the county tree planting season and the world day to combat desertification. ▪ Issues of sanitation, public health and environmental degradation were discussed. ▪ Noise pollution from the SGR disrupting community comfort. <p>DCC- Nzaui</p> <ul style="list-style-type: none"> ▪ Committee has been formed. ▪ Meeting held in April and the committee composition is full. ▪ Waste management issues were discussed, Matiliku doesn't have waste management systems. ▪ Plastic bags still a problem coming all the way from Tanzania. ▪ Encroachment on Nzaui hill. <p>DCC- Makueni</p> <ul style="list-style-type: none"> ▪ Committee inaugurated but membership was a challenge. ▪ Participated in a tree planting as a committee. ▪ Requested CFA to be formed for Makueni sub-county. <p>Kenya water towers</p> <ul style="list-style-type: none"> ▪ Concerned with forest fires in Chyulu hills. ▪ Fires mainly caused by poaching and burning of grass for regeneration. 		
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6 C

A.O.B

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CHIEF OF POLICE
H.O. BOX 1-00300
NAIROBI

Approved for circulation

Chairman

Confirmed during meeting

Secretary

Date: 18/09/2019

Date: 18/09/2019

Handwritten signature

ANNEX IV

Annex IV

COUNTY ENVIRONMENT COMMITTEE MEETING		LOCATION OF MEETING: CGGC BOARDROOM.
Date of Meeting 1 ST NOV, 2019.		Meeting chaired by: ECM FOR WESCC: Makueni county Minutes by: Abdishakur Abdisalan/ EO -NEMA
PURPOSE OF MEETING:		
ATTENDED BY:-		
24. ROBERT KISYULA 25. ENG. MUMA JOSEPH 26. JANET M. KITUNGA 27. MUTHOKA MUTUNGA 28. JONATHAN KUMUNGO 29. ROSE MBITHE MUTETI 30. GRACE K. NDUNDA 31. JOSEPH M. KIMANTHI 32. IBRAHIM MWAKARE 33. FRANCIS MUEMA 34. FAITH MOSES 35. DANIEL NGOKA 36. SHADRACK KINGWAA - 37. RODGERS WAKHUNGU 38. OBADIAH M. KITHOME- 39. NANCY MUMBI SIMON - 40. KELVIN MUTUA KING'OO- 41. JACKLINE KAMUSA- 42. APOPO CONTANA - 43. QIU FENG 44. CHEN BI ZHEN 45. RHODA MUENI 46. FELISTAR WAIRIMU - 47. DOMINIC M. KYENZA 48. OCTPOLO KIVA	CECM FOR WSECC - CHAIRING. CHAIRMAN COUNTY ASSEMBLY MCA MCA MCA CLERK ASSISTANT A. CLERK S.A.A E.H.S EHS- CGGC CEC-SEKU CEC MEMBER CHIEF KATHULUMBI CDH- HOUSING WARD ADMIN. SCEO EIA/EA OFFICER GMC EIA OFFICER GMC HSE MANAGER TRANSLATOR DPM CLO SMEC CLO SNR CLO SMEC	

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49. ABDISHAKUR ABDISALAN – NEMA	
50. MIRIAM MUTUKU	S/W ADMIN
51. ALII-WA KINONGO	WARD ADMIN
52. MBITHE MUTIO	C.M
53. JACKLINE M. KYANIA	CHAIRLADY
54. RODAN K. KELLI	VILLAGE MANAGER
55. JUSTINA K. MUTUKU	VILLAGE MANAGER
56. MARY M. KYALILI	MEMBER
57. BERNARD K. MUTINDA	WDC
58. FAITH M. NZIMBI	CGGC HSE
59. SACHO K. BINAN	SME-EHS
60. YUJINGIAO	CGGC HSE
61. ALEX TAROS	SMEC-EHS
62. KANDU MULIKO	MCA
63. OCTOVIO	-----
64. MBENGE MARY	CO- ENV. & CC
65. ERICK MUTISO	SENATORS OFFICE
66. JOSHUA MUTUA	PC & EC OFFICER

Agenda

10. Opening remarks
11. Thwake multi-purpose dam environmental compliance.
12. AOB

NOTES OF MEETING: DESCRIPTION OF DISCUSSION

NOTES OF MEETING: DESCRIPTION OF DISCUSSION		BY WHO	BY WHEN
MIN.1:01/09/2019: OPENING REMARKS.		Chairman	
The chair called the meeting to order at 11:30 am and asked one of the members to lead us with a word of prayer. He requested members to introduce themselves and thanked all parties for the attendance.			
MIN 2:01/09/2019: THWAKE MULTIPURPOSE DAM ENVIRONMENTAL COMPLIANCE			
The chair stated that this meeting was necessitated by environmental issues surrounding Thwake dam. He mentioned that;			
<ul style="list-style-type: none"> The constitutional rights of Kalawa community with respect to environmental and safety issues have been infringed by CGGC in their endeavor to develop Thwake multipurpose dam. 			

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	<ul style="list-style-type: none"> • That a technical team was formed in our last CEC meeting to visit the project site and make a report. • That the report was presented to the county assembly in which they felt the report was insufficient and formed an assembly committee to come to the ground and make their own investigations. • That the committee also developed a different perspective contradicting the report of the technical committee. • That the above mentioned issues necessitated this meeting so that we understand and have a shared position on this matter. • The chair also declared that they don't have any negative intentions against the project and stressed on the importance of the project to the people of Makeni, however, he also maintained that the project should not undermine the safety and well-being of the people. • The chair then requested Jackline to brief members on the findings made by the technical team (copy of the report is annexed). <p>After the presentation, the chair invited the chairman of the county assembly committee for environment (CACE) to present their report.</p>	
CACE CHAIR	<p>The chairman of CACE stated;</p> <ul style="list-style-type: none"> ➤ That the residents of Kalawa ward petitioned their Hon. MCA about problems of noise, vibration and air pollution. ➤ That the speaker directed the county assembly committee for environment to establish facts on the ground and make a response and the assembly found through the Hon. Member of Kalawa that the response was not adequate. He said that the residents of Kalawa were suffering even though they needed the project so much. ➤ That they as county assembly members are obliged to defend and listen to their people. ➤ He invoked few articles of the constitution as follows. <ul style="list-style-type: none"> i. (Art. 195) powers of the county assembly – the county assembly has equal powers of high court. The assembly can enforce attendance and compel production of information. ii. The assembly can cross examine witnesses of persons to do that. (Art. 42) any person who feels or alleges his/her right to a clean and healthy environment is infringed can seek for a redress in a court of law. ➤ He said that the differences in findings made by different teams revealed something wrong somewhere. The Hon. chairman Further invoked the penal code; CAP 63 (art 129) which reads: ➤ Whoever gives to any person employed in the public service any information which he knows or believes to be false, intending thereby to cause, or knowing it to be likely that he will thereby cause, the person employed in the public service— 	

(a) To do or omit anything which the person employed in the public service ought not to do or omit if the true state of facts respecting which such information is given were known to him; or CAP. 63 Penal Code [Rev. 2014] 54

(b) to use the lawful power of the person employed in the public service to the injury or annoyance of any person, is guilty of a misdemeanor and is liable to imprisonment for three years.

➤ He stated that it is not necessary to take along route if we can finalize our issues together and requested the contractors to be honest in matters raised.

Specific issues that the CACE felt were cheated on

- ↓ Blasting schedules not adhered to.
- ↓ Fly rocks landing on homesteads of people quite far from the project.
- ↓ Sirens not reaching the communities before blasting take place.
- ↓ Blasting at night.
- ↓ The chairman also enquired on issues of compensation for homesteads that were very close to the blasting area.

The chair of the meeting then asked the community to talk their grievances

The community members gave their comments as follows;

- Cracking of their structures due to vibrations.
- Some people very close to the site were not compensated and relocated.
- Small children and elderly people running on prescription now doubling their dosage due to effects believed to be associated to the project.
- A case of twin children getting amazed and shocked when blasting happens.
- No drinking water was provided still as was promised to the community.
- Siren volume too low to be heard before blasting happens.

MCA Mavindini.

The honorable member;

1. Thanked and appreciated the contractors for putting Murram in some roads nearby schools.
2. Praised the contractor for improving the sanitation conditions for the workers.
3. Mentioned four nearby schools on the verge of being closed up (mixed pri. Katithi pri. Katithi sec & mumbeni) due to huge cracks developing in their classrooms.

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The chair mentioned that there were improvements in some issues and there are still some things that need to be done. He stressed that there are no political motives behind these complaints but insisted that if the issues are not resolved, the politicians will be forced to take all measures to defend their people.

The chair then requested the contractor to respond to these allegations by asking the following questions (Q – question by the chair: A – answer by the contractor & SMEC);

Q 1. Whether there is a siren, and if there is any, what coverage does it make?

A. The contractor responded by saying that there is a siren and the coverage is approximately 1.6 kilometers, however, the community members objected to the claim. The contractor then agreed to verify the communities concerns and promised to install sirens with larger volumes from tomorrow. A team was selected to establish if the improvements were implemented or not.

Q 2. Whether blasting is being conducted at night?

A. Tunnel blasting was carried out some times at night which is crucial for the project but there is no permit granted yet for all night blasting activities. The contractor agreed to acquire the permit the soonest possible beginning from Monday.

The chair also stated that the sensitization meetings that were done by the contractor were too inadequate and urged them to include more people in the next sensitization so that the concerns and views of more people are captured and addressed. The contractor agreed to the suggestion and stated that the sensitization schedules will be ready from next Tuesday.

Q 3. Whether pre-blasting assessment was done for the structures surrounding the project to establish if the cracks were already there or resulting from project activities?

A. Pre-blasting survey was done for 6 structures which were very close to the site and were expected to be the most affected. There were no reported cracks or damages observed in these structures and therefore could not establish the claims of faraway structures cracking from project activities. However, the contractor was advised to do vibration mapping in all areas that are deemed to be affected by the vibration and also sensitize the communities on the objective of the assessment.

Q 4. Issues on twins and elderly people affected by the blast?

The committee took this case as a unique case which the technical team will commit to make a follow up and study to see how their reactions are related to the blasting. Both physical and mental examination will be done to the victims to establish the claims.

Q 5. Whether temporal relocation were considered for the households that are very close to the project and were not compensated for relocation?

The ministry is handling the issue of compensation very well but further information will be provided from the people involved in the issue and feedback will be given from Monday.

Q 6. Whether noxious gases believed to be resulting from the blasts were monitored?

The gases were not noxious as were described and their effects were negligible especially in open areas like the project site, however, monitoring of these gases will be done in the tunnels where the space is confined.

Q 7. Frequency of sensitization to communities?

A schedule will be developed by Tuesday on awareness issues to address the concerns of the community and sensitize them on the project and its activities. Honorable members also requested themselves and other ward representatives be involved in such sensitizations.

Q 8. Issues on boreholes and drinking water that were promised to be supplied to the community?

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	<p>Hydrological surveys were done and reports were submitted and the contractor is waiting for approval from the PS to implement. A total of 4 boreholes are to be drilled. 2 in Mavindini and 2 in Kalawa, pumping and storage systems will be installed.</p> <p>Q 9. Access to the river, communities not able to access the river because of the project fence.</p> <p>There is a road outside the dumping area that communities can use to get water from Thwake River: An access road was also developed on the other side of the Alhi River. However the senior resident engineer expressed his concern on allowing people to access the river through the project area due to safety issues.</p> <p>It was also agreed that unique cases such as the households affected by flying rocks be visited and the damages assessed and the report submitted to the committee by Friday next week.</p>	
<p>Way forward</p> <p>The chair reminded members once again that their visit was of good intentions and expressed the need for such kind of meetings be conducted frequently to address arising issues well and help one another in achieving our goals. He thanked all members for their contributions and also requested the contractors to deliver on the commitments that were made on time. He finally requested one of the members to close the meeting with a word of prayer. The meeting finally adjourned at 4:11 pm.</p>		

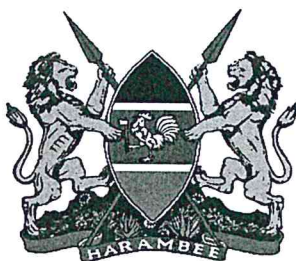
Approved for circulation Date: 10/11/2020

[Signature]
Chairman

Copied by *[Signature]* Date: 10/11/2020

[Signature]
Secretary

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REPUBLIC OF KENYA

MINISTRY OF WATER, SANITATION AND IRRIGATION

**MINISTERIAL RESPONSE BY THE CABINET SECRETARY TO A PETITION BY
HON. MEMBERS OF THE MAKUENI COUNTY ASSEMBLY SECTORAL
COMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE
REGARDING ADVERSE EFFECTS OF ROCK BLASTING AT ONGOING
CONSTRUCTION OF THWAKE DAM IN KALAWA AND MAVINDINI
WARDS IN MAKUENI COUNTY.**

The Senate Standing Committee on Land, Environment and Natural Resources through letter Ref. No. SEN/DCS/LENR/2/2021/(16) dated 23rd March, 2021 invited the Cabinet Secretary, Ministry of Water, Sanitation and Irrigation to a meeting to respond to a Public Petition regarding environmental impacts at the construction site of Thwake Dam in Makueni County. The Public Petition is: -

- 1. THAT, pursuant to article 119 (1) of the Constitution of Kenya, 2010, " Every person has a right to petition Parliament to consider any matter within its authority, including to enact, amend or repeal any legislation ".*
- 2. THAT, the County Assembly Committee on Environment and Climate Change (hereinafter the Committee) has concluded the matter of a request for a statement regarding the adverse effects of rock blasting at the*

ongoing construction of Thwake Multipurpose Dam in Kalawa Ward in Makueni County.

- 3. THAT, the Committee has not been able to conclusively resolve the problem, since the project is funded and implemented by National Government affecting more than one County, hence the resolution to petition the Senate.*
- 4. THAT, the construction of the dam involves a number of activities including rock blasting to obtain stones and rocks for construction use.*
- 5. THAT, the construction activities at the dam, more so the rock blasting, have brought about a plethora of challenges and adverse impacts on the lives of the residents of the nearby villages.*
- 6. THAT, the noise arising from the rock blasting activities have caused house and shops to crack hence weakening the structures and posing danger to the occupants of such structures.*
- 7. THAT, flying rocks from blasting site end up hitting roofs of the nearby homesteads a case in point is the house of Mary Mwikali Kyali who her homestead is located barely 200 metres from the site.*
- 8. THAT, the affected areas include but not limited to; Ndingi, Syotuvali Market, Kamutonye, Kito to, Unyeeo , Ngomano, and Syong un g i in Kathulumbi Location. Kalawa ward and Kyusyani, Miangeni, Kaseve, Katithi, Miksi and Mathangathi in Mavindini ward.*
- 9. THAT, the Committee and the Department of Water, Sanitation, Environment and Climate Change of County Government of Makueni*

carried out site visits to the project and to the areas affected on separate occasions on a fact-finding mission.

10.THAT, the contractor provided contradicting information from what was gathered during the said site visits by the two independent parties. For instance, the contractor indicated that rock blasting was never done at night and yet in actual sense it was done and the contractor did not have a license for night rock blasting.

11.THAT, the Committee, the Department of Water, Sanitation, Environment and Climate Change of County Government of Makueni, the project Coordinator, Thwake Multipurpose Dam Project, Community Liaison, (representatives of SMEC Kenya Ltd., the project supervisors) and representative of the people from the two wards, held a consultative meeting at the project site on 1st November, 2019 to deliberate on the matter in which corrective measures to the effects of rock blasting were resolved and given timelines mostly to be undertaken by the contractor and others by the SMEC Community Liaison officer. The latest timeline was set to be 8th November, 2019 which has long passed and no efforts have been shown to effect the resolutions.

Hon. Chair, Thwake Multipurpose Dam is a National Government Project undertaken by Ministry of Water Sanitation and Irrigation (MWSI) being constructed at confluence of Athi and Thwake rivers in Mavindini Division of Makueni District, Kalawa Division in Mbooni East Sub -County. It is an embankment dam with an approximate maximum height of 80.5 m covering an area of around 9,217 acres, with catchment spanning about 10,276 km², spreading into among other locations; Mavindini, Kanthuni, Kitise, Kithuki, Kathonzweni and Mbuvo. Part of the inundated area will be in Kanyangi locations in Yatta

Division, Machakos County. The dam will store the flood flow from the Athi and the Thwake rivers and provide water supply for multipurpose use.

The Project is funded by GoK and development partners; and is supervised by an international firm of consulting engineers. The Contractor employed in the works is also an international contractor from China with wide experience in construction of such works. The construction process involves quarrying of rocks through drilling, blasting and transporting the same to the construction points.

Hon. Chair, to respond to the issues raised by the petitioner, I wish to inform the Committee that the Ministry has been aware of the environmental concerns of the community around Thwake Dam construction site since the commencement of construction in March, 2017, and has continuously ensured the implementation of remedial actions in compliance with environmental regulations and guidelines. This particular petition first came before the County Government of Makueni in the year 2019, where the issues raised by the petitioner were brought to the knowledge of the County Environment Committee (CEC) and deliberated accordingly.

At a meeting of the County Environment Committee held on 3rd September, 2019, issues surrounding Thwake Dam, among them, complaints on blasting of rocks were discussed (*Minutes attached, Annex I, MIN 2: 3/ 9/ 2019*) and a Technical Committee formed to visit the Dam site and undertake further investigations. The Technical Committee visited the site on 5th September, 2019 and prepared a report on their findings (*Technical Committee Report Attached Annex II*). Key observations of the report were that the contractor had acquired all environmental licenses and permits necessary for dam construction, cracks in buildings had not been caused by the blasts and vibrations. In addition, they found that issues of sanitation and safety have been adequately addressed.

Hon. Chair, the County Commissioner held an Environment Committee meeting on 18th September, 2019 to discuss issues affecting workers and the community around the project area (*Minutes Attached, Annex III*). A follow up meeting, which was attended by the County Assembly Committee on Environment and Climate Change was held at the Dam site on 1st November, 2019 (*Minutes Attached, Annex IV*). During the meetings, environmental issues were raised, key among which were lack of access to water, dusty roads, noise pollution, vibrations, blasting without adequate warning (sirens) and falling rock debris after blasting.

The Environment Committee recommended that the project undertake the necessary measures to address the above community concerns and that frequent site visits be conducted to ensure the contractors implement them. Shortage of water in the vicinity of the Dam site was to be addressed by constructing six (6) boreholes, two (2) at Mavindini, two (2) at Mbooni and two (2) at Kalawa.

Towards this end, the Government through the CSR component of the project is implementing all the six (6) boreholes. Dust levels have been controlled by repairing road sections near schools and markets from the site to Kwa-Kamote Junction; approximately 3 km; in addition to watering haulage roads on site. The measured sound levels within 250 to 300 metres of the blast point has been found to be 108.1 dB(A) against a limit of 114 dB(A) in accordance with NEMA guidelines for mines and quarries.

Hon. Chair; Blasting is restricted to daytime hours only in accordance with the blasting license issued by the Government that limits blasting hours between 6 am-6pm, while the measured vibration levels obtained from a seismograph installed on site are below the NEMA limit of 0.5 cm/sec. This is safe and is tolerated by nearby humans and animals and cannot damage structures. A baseline survey conducted on 16th December 2020, at UNYEEO area prior to commencing

blasting in the quarry near the area, established that many structures have cracks, which could not be directly linked to vibrations and were attributed to improper construction methods leading the defects.

Hon. Chair, to minimize cases of falling debris on houses or even injuring members of the public, blasting sites have been clearly marked with visible tape and warning signs erected to warn people of the danger. Blasting timetable is shared with the community in good time before blasting and commencement of blasting is announced via sirens loud enough to warn everyone of the impending blast. Residents very close to the quarries have been relocated to safer areas.

Hon. Chair, NEMA while on its routine inspection mission, conducted a site inspection on the project on 13th March, 2020 and issued an improvement notice to the proponent to undertake Environmental Audit which will provide more clarity on compliance level to the licensing conditions.

The County Environment Committee, in a meeting held on 10th November, 2020 resolved to make a joint site inspection to monitor the compliance level on the issues jointly agreed with the proponent during the Technical Committee site visit on 5th September, 2019 (Annex II).

The Environmental Audit and the joint site inspection visit would have made very useful tools to verify the level of compliance on the environmental and safety measures, however, the activities are yet to take place due to challenges posed by implementation of COVID-19 Public Health Guidelines and Government directive on measures to control the spread of the Pandemic.

In conclusion, Hon. Chair, the Government is very keen about the safety of its citizens during implementation of such projects and any deviation from this cardinal obligation is not tolerated and the Ministry of Water, Sanitation and

Irrigation will not hesitate to sanction contractors who flout the rules. Further, in order to strengthen the implementation of the environmental and safety measures at Thwake Dam construction site, the project consultants under the guidance of this Ministry have prepared and ensured strict compliance with the Environment Health and Safety protocol on site. At the same time the Ministry, County Environment Committee, NEMA and other stakeholders will continue to closely monitor the implementation of the Environmental Management Plan and compliance to Environmental Impact Assessment license conditions.

Finally, the Ministry has established a Community Liaison position in the project that engages the community to ensure harmonious relations are maintained between the Community and the project for smooth implementation.

Hon. Chair, I submit.

**Sicily K. Kariuki (Mrs), EGH
Cabinet Secretary**

