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NEMA

NEWS

JANUARY - MARCH 2017



Government *BANS* Plastic Carrier Bags



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Ministry of Environment
and National Resources

EFFECTING THE GAZETTE NOTICE ON THE BAN ON PLASTIC CARRIER BAGS



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National Environment
Management Authority

FREQUENTLY ASKED QUESTIONS (FAQs)

SCOPE OF PLASTIC CARRIER BAGS BANNED IN THE GAZETTE NOTICE



Carrier bags

Regardless of their thickness or color used at supermarkets, retail store, shopping mall, grocery stores, daily household and so on



Flat bags

Used mainly in groceries and including those used for garbage collection

Question 1: Which plastics have been banned?

Answer: The ban applies to all plastic carrier bags and flat bags used for commercial and household packaging.

Question 2: What is a plastic carrier bag?

Answer: This is any plastic bag regardless of its thickness or colour, used at the supermarkets, retail stores, shopping malls and grocery stores as secondary packages.

Question 3: What is a flat bag?

Answer: A flat bag is a plastic bag constructed without handles and may have a gusset or not.

Question 4: What are the major concerns of plastics bags?

Answer: Plastic bags are usually manufactured for single use and generally tear or puncture after a first use. They are easily transported by the wind and are some of the most visible components of roadside and shoreline litter. Plastic bags are produced from oil and natural gas, and never fully biodegrade, remaining in the environment as small or even microscopic particles, essentially forever.

Question 5: Are plastics used for primary industrial packaging also banned by the Gazette Notice?

Answer: No, plastic bags used for industrial packaging are exempted so

long as they are used for industrial primary packaging at the source of the product and are not available on sale at the counter or given freely outside the industrial setting. Furthermore, the bags must be labeled clearly by the industry manufacturing the product.

Question 6: When are manufacturers and importers required to stop providing plastic single-use carrier bags to customers?

Answer: By August 28th, 2017. Furthermore, all manufacturers and importers shall declare all their remaining stocks by the due date to the National Environment Management Authority for necessary action.

Question 7: Will exporters of plastic single-use carrier bags continue to manufacture the bags?

Answer: NO. The manufacturing of all plastic carrier bags shall cease by 28th August 2017.

Question 8: Will there be a "grace period" for retailers to comply?

Answer: The Gazette Notice was published on 28th February 2017, allowing six (6) months grace period for necessary adjustments and compliance.

Question 9: Are retailers allowed to use up existing stocks of plastic bags after August 28th, 2017?

Answer: No, retailers are required to clear stocks within the grace period. Furthermore, all retailers shall declare all the remaining stocks by the due date to the National Environment Management Authority for necessary action.

Question 10: Can retailers provide paper bags as an alternative to plastic carrier bags?

Answer: yes

Question 11: What are the alternatives to plastic carrier bags?

Answer: These include paper bags; clothing bags; canvas bags; sisal bags; papyrus bags and buyers/shoppers own shopping bags.

Question 12: Which retailers are affected?

Answer: All Retailers

Question 13: Are small retail businesses exempt?

Answer: No.

Question 14: Does the Ban prohibit retailers from selling plastic bags such as garbage bags?

Answer: Yes.

Question 15: Is there an exemption for clothing stores?

Answer: No. Exemptions apply to only industrial packaging as indicated in 5 above.



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Our Environment, Our Life, Our Responsibility

editor's note

JANUARY - MARCH 2016



Plastic Bags Ban, good for the country

Plastic bags are everywhere in our lives. We grab one in the morning to pack our lunch. We slip our hands in them to pick up dog doo. We use them to line garbage cans, separate dirty laundry in the luggage and carry things from here to there.

However, plastic bags also are dangerous to the environment. They take considerable energy to manufacture and a thousand years to disintegrate. The bags are light that such that, a little breeze easily lift them up and litter them along highways, waterways and in trees. They end up clogging our drainage systems leading to flooding in major cities in Kenya that has led to deaths in the recent past.

A research done by NEMA in conjunction with UNEP and KIPPRA, revealed that 100 million plastic bags are handed out in Kenya by supermarkets alone. Because of the damage they cause, the government of Kenya under the Ministry of Environment and Natural Resources has banned the use, manufacture and importation of all plastic bags for commercial and household packaging. This follows a move by the Environment and Natural Resources, Cabinet Secretary Prof Judi Wakhungu to gazette the ban on 28th February 2017.

With this, NEMA's Director General, Prof Geoffrey Wahungu has engaged the public by creating awareness through Radio and Television among other channels by expressing optimism that the government will support the enforcement of the ban and urged manufacturers to seek alternatives that are more environmental friendly. WE also urge the public to support the ban especially on behavior change towards the use of plastic bags.

As you may be aware, the penalties for contravening the ban are very harsh. Section 144 of EMCA states that, *"any person who contravenes the provision of the gazette notice shall be liable to a fine of not less than two million Kenya Shillings, and not more than four million Kenya shillings, or imprisonment of a term of not less than one year but not more than four years or to both such fine and imprisonment."* Therefore, the Authority is urging the citizens and manufactures to abide by the set deadline of 28th August 2017 to avoid finding themselves in the wrong arm of the law. In the spirit of enhancing the capacity of the Counties to deal with the environmental issues, the Authority has also developed the Environment Action Plan guidelines that have been launched. The guidelines will go hand with the County Environmental Action Plans (CEAPs) that are critical for addressing environmental matters at the County. We also urge Counties that have not developed and gazetted County Environmental Committees to do so as they help in coordination of environmental matters at the National and County levels.

NEMA continues to work with our stakeholders to implement the environmental mandate as witnessed during the World Wetlands Day 2017, signing of various MOU with our partners, engaging media to push the environmental agenda among other initiatives.

We continuously strive to enhance the quality of environmental management in the country. We are happy to have the support of the public and government in implementing our mandate.

Have a great read!

Evans Nyabuto,
Chief Corporate
Communications Manager.

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CONTRIBUTERS

Samwel Irungu

Agnes Kamiri

Ferdinand Musungu

Sarah Muthoni

Evans Nyabuto

Esther Wangu

Anthony Waswa

Fanuel Mosago

James Kamula

Parnwell Simitu

Susan Arieko

PHOTOGRAPHERS

Samwel Irungu

Anthony Mwangi

Ferdinand Musungu

Agnes Kamiri

James Kamula

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P.O. Box 21868-00100 Nairobi.

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DISCLAIMER

The views and opinions expressed herein are not necessarily those of NEMA but of individual writers. NEMA does not endorse or guarantee products in the Magazine.

Government **BANS** plastic carrier bags

By Samwel Irungu & Agnes Kamiri

In the Gazette notice No. 2334, of 28th February, 2017, The Cabinet Secretary, Ministry of Environment and Natural resources while exercising powers conferred under section 3 and 86 of the Environmental Management and Co-ordination Act (EMCA Cap 387), notified the public that with effect from 6 month from the date of the notice banned the use, manufacture and importation of all plastic bags used for commercial and household packaging.

In Kenya, plastics are widely used as a key packing material in several sectors of the economy namely manufacturing, trade, transport, agriculture, hospital-ity etc. A research done by NEMA in conjunction with United Nations Environment Programme (UNEP) and Kenya Institute of Public Policy Research and Analysis (KIPPRA), revealed that 100 million plastic bags are handed out annually in Kenya by supermarkets alone.



plastic bags waste



NEMA Director General, Prof Geoffrey Wahungu in an interview with Citizen's Dennis Otieno in their studio [PHOTO_S. IRUNGU-NEMA]

The purpose of the Government to ban the use of plastic bags is to avoid health and environmental effects resulting from the use of plastic bags. These effects include,

1. *The inability of plastic bags to decompose and thus affecting soil quality;*
2. *The littering of such bags at various parts of the country;*
3. *The blockage of sewerage and water drainage infrastructure causing floods during the raining season;*
4. *Damage of ecosystems and biodiversity due to plastics bags,*
5. *Death of animals after consuming plastic material;*
6. *Endangering human health when used for packaging food in particular hot food;*
7. *Poisonous gaseous and when used as fuel to light charcoal; and*
8. *Air pollution when disposed by burning in open air.*

Continued next page



The government extends a six month grace period to manufacturers and importers of all plastic bags used for commercial and household packaging. All stakeholders are required to take reasonable steps to ensure that by 28th August, 2017, the production, importation, sale and use of plastic bags in the country ceases. Manufacturers of all plastic bags are encouraged to invest in the production of alternative bags.

Pursuant to section 144 of EMCA, any person who contravenes the provision of the gazette notice shall be liable to a fine of not less than two (2) million Kenya Shillings, and not more than four (4) million Kenya shillings, or imprisonment of a term of not less than one (1) year but not more than four (4) years or to both such fine and imprisonment.

Speaking during an interview with Citizen TV's Dennis Otieno, NEMA Director General Prof Geoffrey Wahungu said the banning of plastic carriers will play a critical role in fostering a clean and healthy environment for all.

He expressed optimism that the government will support the enforcement of the banning and urged manufacturers to seek alternatives which are more environmental friendly. He also urged the public to support the ban especially on behavior change towards the use of plastic bags.

{The writers are NEMA's Corporate Communications officers}

FREQUENTLY ASKED QUESTIONS (FAQs) ON THE GAZETTE NOTICE ON BAN ON THE USE, MANUFACTURE AND IMPORTATION OF PLASTIC BAGS

Question 1: Which plastics have been banned?

Answer: The ban applies to all plastic carrier bags and flat bags used for commercial and household packaging.

Question 2: What is a plastic carrier bag?

Answer: This is a single use plastic bag constructed with handles and may have a gusset or not.

Question 3: What is a flat bag?

Answer: A flat bag is a plastic bag constructed without handles and may have a gusset or not.

Question 4: What are the major concerns of plastics bags?

Answer: Plastic bags are usually manufactured for single use and generally tear or puncture after a first use. They are easily transported by the wind and are some of the most visible components of roadside and shoreline litter. Plastic bags are produced from oil and natural gas, and never fully biodegrade, remaining in the environment as small or even microscopic particles, essentially forever.

Question 5: Are plastics used for primary industrial packaging also banned by the Gazette Notice?

Answer: NO. The Ban does not apply to plastics used in primary industrial packaging in accordance with approved packaging standards.

Question 6: When are manufacturers and importers required to stop providing plastic single-use carrier bags to customers?

Answer: By August 28th, 2017. Furthermore all manufacturers and importers shall declare all their remaining stocks by the due date to the National Environment Management Authority for necessary action.

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Answer: Yes.

Question 15: Is there an exemption for clothing stores?

Answer: No. Exemptions apply to only primary industrial packaging which is in accordance with approved standards as indicated in 5 above.

Guidelines for environment action plan launched

By Ferdinand Musungu



The PS, MENR Hon Julius Sunkuli and the NEMA Board Chair Hon John Koeh Launch the EAP guidelines as the DG nema Prof Geoffrey Wahungu looks on

The first National Environment Action Plan to be prepared in Kenya was back in 1994 in the pursuit of the fulfillment of Agenda 21 of the Rio Summit of 1992. The process has been domesticated through a legal provision in the Environment Management and Coordination Act 1999, now EMCA Cap 387. The legal framework provides for both the National and County governments to prepare Environmental Action Plans as part of mainstreaming of environmental concerns into the development planning process.



A participant makes a contribution during the launch

The Environmental Management and Co-ordination (Amendment) Act, 2015, (EMCA Cap 387) provides for the integration of environmental concerns into national and county policies, plans and programmes through the formulation of:

- i. *County Environmental Action Plan (CEAP) within one year of the commencement of Act and every five years thereafter*
- ii. *National Environment Action Plan (NEAP) within two years of the commencement of the Act and every six years thereafter.*

The Environmental Action plans are meant to co-ordinate and harmonize the environmental policies, plans, programmes and decisions of the national and county governments in order to-

- (i) *Minimize the duplication of procedures and functions; and promote consistency in the exercise of functions that may affect the environment.*
- (ii) *Secure the protection of the environment across the country; and*
- (iii) *Prevent unreasonable actions by any person, state organ or public entity in respect of the environment that are prejudicial to the economic or health interests of other counties or the country.*

It is in this regard that the development of the Kenya Environment Action Plan Preparation guidelines was undertaken by the Ministry of Environment in coordination with National Environment Management Authority (NEMA). The guidelines, which were officially launched on 31st January 2017 at KICC.

Continued next page



The PS, MENR Hon Julius Sunkuli and the NEMA Board Chair Hon John Koech Launch the EAP guidelines as the DG nema Prof Geoffrey Wahungu and County environment executives Watches on.

In a speech read by Principal Secretary, State Department of Environment Mr Charles Sunkuli, during the launch of the guidelines at KICC in Nairobi, Cabinet Secretary Ministry of Environment and Natural Resources Prof. Judi Wakhungu, said the guidelines will provide a basis for monitoring the state of environment and offer opportunities for facilitating linkages in social, economic and environmental issues.

The launch was attended by lead agencies and civil societies among other stakeholders. During the launch, NEMA Director, Environmental Planning and Research Coordination Dr. Kennedy Ondimu presented the overview of the guidelines where questions were allowed. Among the issues that ensued out of the session included; the need of monitoring and evaluation of the plans, capacity building, speedy formation of county environmental committees among other issues. Discussants in the session also used the opportunity to deliberate on the way forward.

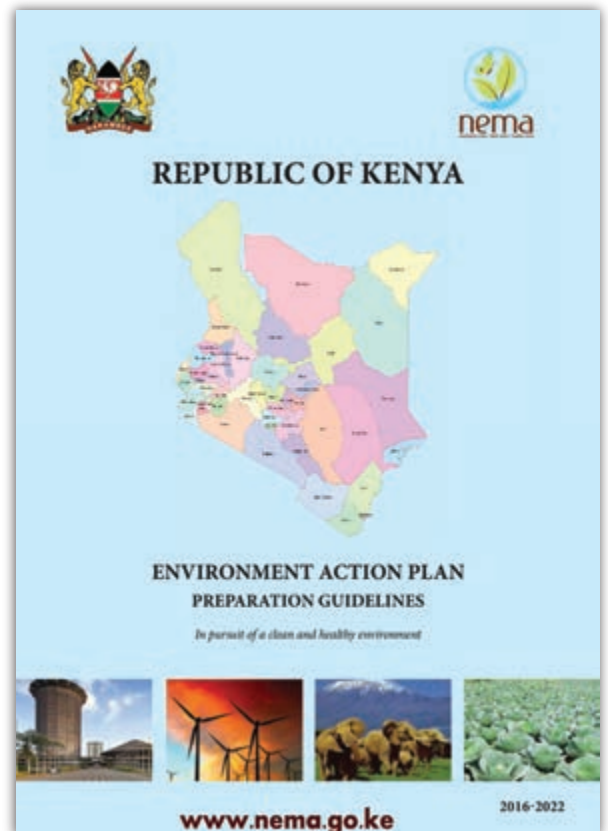
Speaking to the press after the launch, NEMA Director General Prof Geoffrey Wahungu said that the Authority is encouraging application of the Green Climate Fund (GCF). He also urged counties to swiftly form environmental committee for them to beat deadline and consequently be considered in the budgetary allocation. "We would like as early as possible for environment committees to establish themselves so that they are allocated resources like other county functions," he said.

In pursuit of development, the environment has become more vulnerable to both natural and human induced changes. Water systems are under threat from pollution and encroachment emanating from human related activities, forests is facing serious degradation as a result of expansion of settlements and agriculture. It is imperative, therefore, that these changes are monitored on a continuous basis and interventions that address such negative impacts on the environment are put in place. Environmental Action planning is intended to provide guidance on solutions to some of these concerns through a systematic planning process.

It is expected that the guidelines will facilitate development of action plans which will integrate social, economic and environmental issues with an aim to reduce poverty, enhance equity and generate wealth for the present and future generations. The Environmental Action plans implementation will lead to sustainable development initiatives by both the National and County Government. It also makes provision for conducting research and to build an information base for environmental monitoring and reporting through the State of Environment Reports (SOEs)



The PS presents a copy of the guidelines to the CEC, Nyamira County



We would like as early as possible for environment committees to establish themselves so that they are allocated resources like other county functions.
 NEMA Director General Prof Geoffrey Wahungu

{The writer is an intern at Corporate Communications Section}

Let's conserve our wetlands, public urged

By Samwel Irungu

World Wetlands Day (WWD) 2017 has been commemorated 2nd February since 1971, to mark the Day the Ramsar Convention was signed in Iran. These commemorations are meant to raise public awareness and consciousness about the benefits and challenges facing wetlands.

World Wetlands Day (WWD) 2017 was celebrated on 2nd February 2017 at Kipsaina Market in Tranz Nzoia County. This years celebrations focused on reducing disasters by conserving wetlands under the theme, "Wetlands for disaster risk reduction" and the domesticated slogan was "Our Wetlands Our Safety."

However, she informed the public that the ministry had put in place appropriate measures to conserve and manage wetlands and at the same time enable people to make a decent living from them.

NEMA Director General stated that NEMA encourages the mainstreaming of disaster risk reduction measures in wetland management plans and into all relevant policies, action plans and programmes by counties and other stakeholders.

He added that the Authority partakes to ensure that necessary development activities in and adjacent to wetlands are sustainable and will maintain and conserve ecosystem services including the role of wetlands in reducing impacts of disasters.

The Authority has successfully guided the development of the National Wetlands Conservation and Management and the Integrated Coastal Zone Management Policies. These policies are meant to give the country direction in managing coastal and inland wetlands. It is envisioned that implementation of these policies will enhance management of wetlands across the country and reverse wetlands degradation trends that are currently being experienced.



Environment PS, Charles Sunkuli speaking during the celebrations
[PHOTO-A. MWANGI-NEMA]

This year's theme sought to highlight the vital roles of healthy wetlands in reducing the impacts of extreme events such as floods, droughts and cyclones on communities, and in helping to build resilience. The event also seeks to raise public awareness and consciousness about the benefits and challenges facing wetlands. The celebrations were spearheaded by Principal Secretary State Department of Environment, Mr. Charles Sunkuli, NEMA Board of management chairman, Mr. John Konchellah, County government of Trans Nzoia, NEMA board of management, partners among other officials.

While making his remarks, the Cabinet Secretary Environment and Natural Resources, Prof Judi Wakhungu whose speech was read by the PS state department of environment stated that the role of wetlands in disaster risk reduction should never be underscored. She urged the public and stakeholders to help in conservation to sustain the ecological integrity of wetlands through conservation and proper management. She expressed her concern 64% of the world's wetlands have disappeared since 1900 and 76% of wetland species have also disappeared with the disappearance of wetland ecosystems.



NEMA DG, Prof Geoffrey Wahungu addressing residents during WWD celebrations
[PHOTO-A.MWANGI_NEMA]

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NEMA Board of management team



NEMA Chairman, Mr. John Konchellah addressing participants during the WWD 2017 celebrations
[PHOTO-S. IRUNGU-NEMA]

promotes and encourages sustainable use of wetlands from the grassroots/community to national levels and in accordance with the Constitution of Kenya 2010 and other legislative and legal frameworks. The County government of Trans Nzoia assured the national government of their support in developing county based policies to guide on conservation and management of wetlands. They also assured their support in establishment of the County Environment Committee to ensure that the impact on the general management of environment is well maintained throughout the country.

{The writer is NEMA's corporate communications officer}

The NEMA board of management chairman, Mr. John Konchellah assured the public that the Authority will continue to review, develop and implement various tools and instruments as appropriate to ensure that wetlands are well managed so that the community can benefit from minimized disaster risks. Moreover, the Authority will also continue to create awareness on the importance and need to manage wetlands so as to reverse degradative activities that deplete wetlands.

Equally, the NEMA board will work to strengthen governance structures and provide harmonious working atmosphere that

Environment PS Charles Sunkuli (L) presenting a book to TransNzoia Governor, Patrick Khaemba during the WWD courtesy call {PHOTO_ A. MWANGI_NEMA}

NEMA enhancing environmental media coverage

By Samwel Irungu



NEMA conducted a one-day media workshop on 30th March 2017 at Kongoni hotel in Naivasha. The aim of the workshop was to enhance environmental media reportage in the country. The journalists were drawn from various media houses all over the country.

NEMA Director General, Prof Geoffrey Wahungu opened the workshop where he addressed salient issues facing the environmental management in the country. Top on the agenda was the recent government banning of plastic carrier bags.

Prof Wahungu took time to address this matter and lay facts bare to the journalists. He stated that the banning was driven by the need to avoid health and environmental effects resulting from the use of plastic carrier bags.

“All stakeholders are required to take responsible steps to ensure that by 28th August, 2017, the production, importation, sale and use of plastic bags in the country,” Prof Wahungu said.

Prof Wahungu urged manufacturers of all plastic bags to invest in the production of alternative bags. He stated that NEMA and the ministry of environment are working on modalities to effect the banning come 28th August 2017.

He stated that, “In the gazette notice issued on 28th February 2017, a six month grace period is provided to manufacturers and importers of all plastic bags used for commercial and household packaging. All stakeholders are required to take reasonable steps to ensure that by 28th August, 2017, the production, importation, sale and use of plastic bags in the country ceases. Manufactures of all plastic bags are encouraged to invest in the production of alternative bags.”

In the gazette notice issued on 28th February 2017, a six month grace period is provided to manufacturers and importers of all plastic bags used for commercial and household packaging. All stakeholders are required to take reasonable steps to ensure that by 28th August, 2017, the production, importation, sale and use of plastic bags in the country ceases. Manufactures of all plastic bags are encouraged to invest in the production of alternative bags.”

NEMA Director General, Prof Geoffrey Wahungu

Continued next page



The work in session at Kongoni Hotel, Naivasha

This year, the government scrapped EIA fees in the spirit of facilitating the ease of doing business for the investors. However, EIA licensing remains mandatory by law. Proponents are required to carry out Environmental Impact Assessments for projects as required by law.

In the same breath, Prof Wahungu stated that there is need for counties to constitute and gazette County Environment Committees which will be important in coordinating environmental matters in the counties. Failure to form these committees, the DG lamented that this has led to reduced priorities of environmental management in the country.

“The emerging environmental challenges such as climate change demands concerted efforts from all, if we are to leave the planet intact for the future. Human encroachment as well as industrial waste and siltation from degraded catchment areas pose serious threats on our urban rivers. Activities such as washing of clothes, motor cars and motor cycles into the rivers, uncontrolled disposal of solid wastes and release of raw sewerage into the river continue to worsen the situation”, Prof Wahungu said. He added, “The Authority has come to appreciate that our role as the supervisor and co-ordinator of environmental matters in the country is hugely unclear to many people. This has therefore resulted to our unfair recrimination by not just the regulated community but also sections of the media”



NEMA Director General, Prof Geoffrey Wahungu addressing journalists during the workshop at Kongoni Hotel, Naivasha

“The Authority has come to appreciate that our role as the supervisor and co-ordinator of environmental matters in the country is hugely unclear to many people. This has therefore resulted to our unfair recrimination by not just the regulated community but also sections of the media.”

NEMA Director General, Prof Geoffrey Wahungu

The Director General encouraged journalists to be on the lead in advocating for environmental management in the country through regular coverage. The journalists were assured of the Authority’s support in enhancing environmental reportage and access to information regarding environment. Media were also urged to participate in the national environmental activities to be more informed of the happenings in the environmental sector. During the workshop, the media learnt about the mandate of the Authority including its functions and programmes.

{The writer is a corporate communications officer}

NEMA begins efforts to save Lake Kenyatta



Government officers led by Environment PS, Charles Sunkuli when they visited Lake Kenyatta [PHOTO-COURTESY]

Lake Kenyatta in Lamu County is on the verge of extinction, which is evident by the alarming rate of the receding levels of water.

This phenomenon has been a threat to both human and wildlife survival who depend on the lake for survival. It is with this realization that a delegation from the Ministry of Environment and NEMA visited the historically significant Lake Kenyatta in Lamu County.

The delegation that was led by the PS Environment, Mr. Charles Sunkuli, included the Environment Secretary, Dr. Alice Kaudia; NEMA Board Chairman, Mr. John Konchellah; NEMA DG, Prof. Geoffrey Wahungu; Director Compliance and Enforcement, Mr. David Ongare; Deputy Director Coastal Marine, Mr. Stephen Katua; and Mr. Salim Bashir (CDE Lamu).

Elements of the mission included discussions with the Lamu County Government, a meeting with the County Commissioner, departmental heads of MDAs stationed in Lamu County, a field trip to Lake Kenyatta; and finally a public meeting at the Agricultural Training Centre, Mpeketoni.

It was noted that the degradation of the lake could be attributed largely to excess water abstraction especially by pastoral communities, encroachment on the riparian reserve propelled by a rapidly growing squatter population, siltation of the Lake, interference with streams that feed the Lake and land grabbing. Being the only source of potable water, the death of the look would spell doom to the communities that live in this locality.



Government officers looks at the carcass of a dead hippo during the tour of Lake Kenyatta [PHOTO_ COURTESY]

At the end of the visit, the PS directed that the Lake be gazette with NEMA's assistance, NEMA to generate a paper for consideration by the Board and an inter- agency project team, headed by the Environment Secretary be constituted. This project team will put up and electric fence around the lake with controlled access points, undertake a comprehensive baseline research of the lake including a geological survey and draw up a rehabilitation action plan for the lake's ecosystem.

Authority addressing mining conflicts

By Samwel Irungu

Exploitation of natural resources in Kenya has been an emotive issue for decades. Mostly, residents are up in arms against authorities involved in licensing investors alleging that they have been sidelined. Some believe that mining has been a curse to some communities as opposed to being a blessing.

Communities sitting on land-rich minerals have always been on the receiving end as they always complain that the government does not involve them in the process of acquiring their land and the resultant benefits accrued from such minerals.

Kitui and Kwale are some of the counties rich in minerals in Kenya. Locals allege that local and foreign investors have been invading their land in prospecting the vital resources. This has been done without consultation and participation something that has left a trail of disgruntled communities outraged against authorities involved in licensing of such investors.

Towards this end, Kenya is in the roadmap towards implementation of the mining Act following its gazettment in May 2016. The Act will streamline mining activities in Kenya which will take into consideration the concerns not only for investors but most importantly those of communities. The government is therefore working on various regulations that sets forth implementation of the Act.



NEMA's Deputy Director Compliance Mr. Zephania Ouma making a presentation during the meeting [PHOTO: S.IRUNGU/NEMA]

During the meeting, Deputy Director Compliance, Mr. Zephania Ouma gave a brief on the essence of conducting SESA to address some of the mining falsehood related to mining that have been spread in the country.

“Mining industry has been through a lot of political influence which has shrouded the industry with a lot of masqueraders disguised as experts. To end this, the government is working on improving the mining sector by developing a stakeholders driven process” said Ouma.

Kitui residents were particularly concerned that they are never involved in cycle of mining in their areas. “We wake up in the morning and find investors with their bulldozers digging the ground claiming they are doing prospects of the minerals while trucks of lorries continue to carry materials out of the mining areas,” moaned Mutua, a Zombe ward resident.

The communities believe that SESA recommendations and resultant regulations to be developed should capture the recommendations by the community affected by the mining activities. This will help to resolve the crisis that has been brought by the discovering of various minerals in various parts of the country.

{The writer is NEMA's Corporate Communications Officer}



Participants during the meeting [PHOTO: S. IRUNGU/NEMA]

NEMA and UNDP has been working with Habitat planners as the consultants in conducting Strategic, Environmental and Social Assessment (SESA) of the mining in Kenya. Kitui and Kwale Counties are the two major case study counties which will inform the direction the country takes in regards to exploitation of minerals in the County.

In the light of this, NEMA organized a meeting at Kitui where the public were invited to air their views which will be included in the SESA report that will inform the development of the regulations on mining.

NEMA, Safaricom collaborating to foster sustainability

By Ferdinand Musungu

The National Environment Management Authority (NEMA), Safaricom and Communications Authority of Kenya launched an information booklet on the use of telecommunication equipment on 8th February at Kempinski hotel, Nairobi.

Speaking during the launch of the booklet titled *'The answer is in your hands, Mobile phones, masts and your health'*, NEMA Director General, Geoffrey Wahungu, said. *"This timely publication provides information that will go a long way towards demystifying the misconceptions held by the public and communicate how mobile phones, masts and the radio waves they emit work"* he added.

"As Telcom operators, we have to do our part by ensuring we not only adhere to all regulations but also remain conscious of our customers and indeed the general public's questions and concerns," said Bob Collymore, CEO, Safaricom.



L-R NEMA Director C & E, Mr. David Ongare, CA Director, Tom Oluero and Safaricom CEO, Bob Collymore officially launch the EMF book at Kempinski [PHOTO: A. MWANGI/NEMA]

The latest Communication Authority Statistics indicate that Kenya has more than 38 million active mobile phone users.

The *"Green Power for Mobile market analysis report"* for East Africa, shows that as of 2012, Kenya had the highest number of base stations at 5,565 sites.

NEMA engages partners on waste



NEMA Directors Dr. Ayub Macharia and Mamo Boru hands over awareness materials to BOC officials [PHOTO: A. MWANGI/NEMA]

The EEI&PP team, led by the Director Dr. Ayub Macharia and Mamo Boru paid a courtesy call to the BOC gases company with the aim of strengthening partnership in waste management.



Deputy of Director M & E, Betty Nzioka making a presentation during the media workshop in Naivasha



Nakumatt MD, Atul Shah, NEMA Directors Ayub Macharia and Mamo Boru during a courtesy call to Nakumatt holdings



NEMA's Ayub Macharia (R) and Mamo Boru (L) explains to Environment PS Charles Sunkuli, NEMA Chairman John Konchellah, NEMA DG Prof Geoffrey Wahungu among other guests at the NEMA booth during WWD 2017.



NEMA's Ayub Macharia and CEC Environment Trans Nzoia County launching the procession



NEMA Deputy Director EEI, Mamo Boru receiving a gift from Egerton University VC, Prof Rose Mwonya during the Mau Marathon



NEMA's Anne Owino engages a visitor at the NEMA booth during the CoG conference



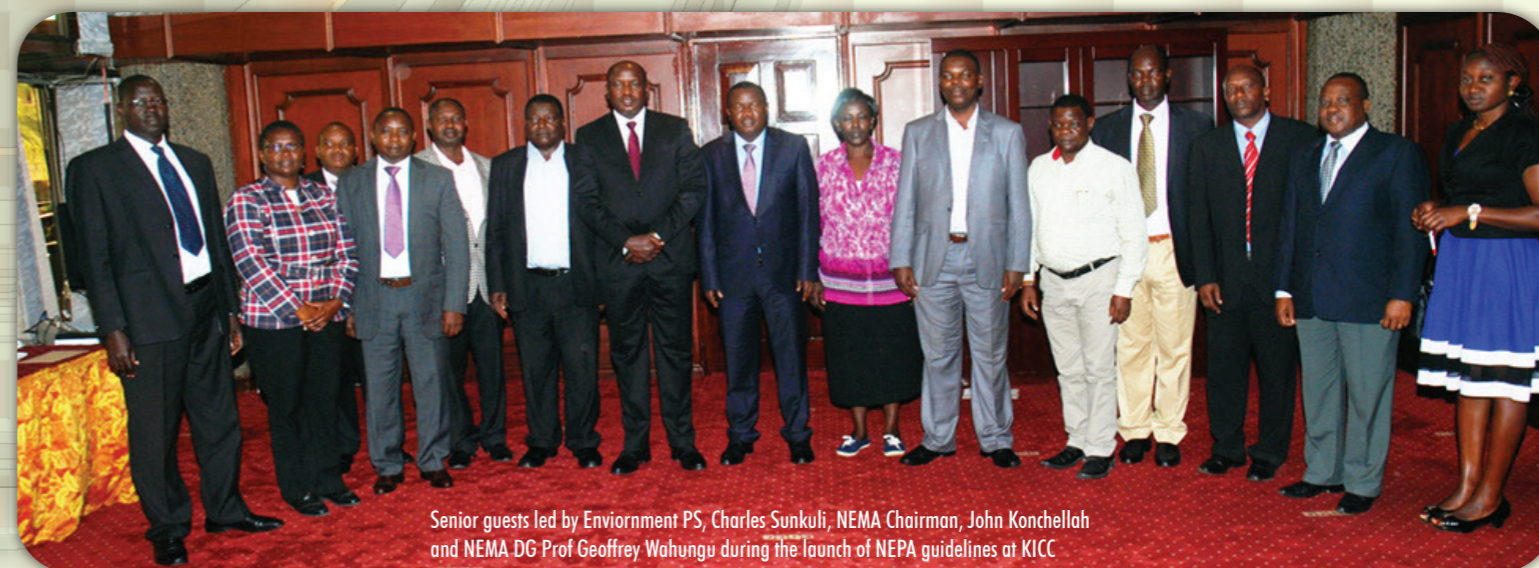
Participants uprooting weed at Saiwa Wetland during the WWD 2017



NIE Coordinator, Ms Wangare Kirumba speaking during the NIE meeting at ministry of environment HQ



NEMA Board of Management when they toured wetlands on NorthRift



Senior guests led by Environment PS, Charles Sunkuli, NEMA Chairman, John Konchellah and NEMA DG Prof Geoffrey Wahungu during the launch of NEPA guidelines at KICC



National Environment Management Authority (NEMA)

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TOWARDS THE ZERO WASTE PRINCIPAL BY



The first Adaptation fund programme steering committee meeting held

By Sarah Muthoni

The first Adaptation Fund National Programme Steering Committee (PSC) meeting, Chaired by Mr. Charles Sunkuli, Principal Secretary, Ministry of Environment and Natural Resources was held on 7th March 2017 at the Ministry Headquarters, NHIF Building. The Secretary to the PSC is Prof. G. Wahungu, Director General, NEMA. The PSC comprises the heads of the 11 executing entities and Transparency International.

The Adaptation Fund (AF) Kenya Programme Document establishes a Programme Steering Committee (PSC),



NIE coordinator, Ms Wangare Kirumba speaking during the meeting at ministry of environment HQ [PHOTO-COURTESY]



Participants during the meeting [PHOTO-COURTESY]

whose role is to Oversight the Programme Implementation by

- a) *Monitoring and ensuring coherence of the Adaptation Fund Programme implementation in Kenya, with national policies;*
- b) *providing national leadership in the Adaptation Fund Programme implementation process;*
- c) *receiving annual reports of the Adaptation Fund Programme implementation process and d) resolving national level conflicts of the AF Programme.*

The National Environment Management Authority (NEMA) is the Adaptation Fund's (AF) accredited National Implementing Entity (NIE) for Kenya.

NEMA commenced implementing AF funded programme titled, 'The integrated programme to build resilience to climate change & adaptive capacity of vulnerable communities in Kenya' in 2016.

This programme is being implemented in 14 counties namely: Kilifi, Kwale, Taita Taveta, Moyale, Garissa, Wajir, Laikipia, Muranga, Kitui, Machakos, Makueni, Kajiado, Kisumu and Homa Bay. There are 11 government and non-governmental Executing Entities (EEs) and Sub-EEs implementing the Programme as follows: Kenya Forestry Research Institute (KEFRI) Coast Development Authority (CDA) and Tana & Athi Rivers Development Authority (TARDA), CARITAS Nyeri, Adventist Development and Relief Agency (ADRA) Kenya, NASARU Women Community Based Organization, Horn Aid (Kenya), Victoria Institute for Research on Environment and Development (VIRED) International, Kenya Redcross, Kenyatta University (KU) and World Vision (Kenya).

During the meeting, members adopted the Programme Document and Contracts signed by EEs and Sub-EEs which bind them to execute what NEMA has also signed for with Adaptation Fund Board. The meeting also adopted the NIE Finance and Procurement Manual, Environment and Social Policy of the Fund, NIE Environmental and Social Management Framework, Governance of the Adaptation Fund Programme and the Grievance Redress Mechanism. The members agreed that future only one representative from Sub-EEs will attend the PSC meeting but on rotational basis. The EEs were asked to have meetings with their Sub-EEs to resolve conflicts and if the Sub-EEs is still aggrieved, then refer them to NEMA. The Principal Secretary Inaugurated the National Programme Steering Committee as agreed during the meeting.

The meeting also adopted the proposed Field Implementation Committee and its terms of reference. In future, workplans for the field visits shall be shared in advance to the EEs and Sub-EEs for smooth running of the programme.

{The writer is an environment officer at NEMA}

NEMA participates in the *Mau Conservation Race*

By Ferdinand Musungu



NEMA staff who participated in the Marathon [PHOTO: F. MUSUNGU/NEMA]

Decades of environmental degradation of natural vegetation in Mau ecosystem has led to decline in water quality and quantity of Njoro River hence compromising local economies and livelihoods. The river also faces several threats such as wanton destruction of indigenous riparian vegetation in the catchment and along the river bank, solid waste disposal in the river, cultivating up to the river banks, unplanned settlements and increased sediments loads due to soil erosion.

Due to its proxy to the Mau Ecosystem, Egerton University saw it important to take the front line in spearheading the conservation of the Mau Ecosystem and Njoro River which is a lifeline of Lake Nakuru. One of the ways to raise funds for this course was to organize a fun, innovative, annual event dubbed 'Mau-Egerton University Cross Country'. The slogan of the event is 'Run for the Mau'.

A team of NEMA staff represented the Authority in this year's edition of Mau-Egerton University Cross Country which was held on 11th February, 2017 at Egerton University Sports Ground in Njoro, Nakuru County. The aim of the event was to create environmental awareness and getting more partners for the rehabilitation of the Mau Ecosystem and Njoro River.



NEMA Deputy Director EEI, Mamo Boru starting the 10KM race

“The aim of the event was to create environmental awareness and getting more partners for the rehabilitation of the Mau Ecosystem and Njoro River.” NEMA

Continued next page



NEMA Director EEL, Mamo Boru receives a gift from Egerton VC, Prof Rose Mwonga during the marathon

Hundreds of participants started streaming into the Sports ground as early as 6 a.m on Saturday ahead of the first category of junior athletes which was scheduled to kick off at 6:30 a.m. After the junior competition at around 8 a.m, the thrilling adult men and women races, which showcased both elite and new talented athletes followed. The corporate race later kicked off at around 11 a.m.

Meanwhile, the NEMA team anxiously waited for their turn by sensitizing participants who visited the NEMA stand on environmental conservation and rehabilitation issues. The team displayed exceptional resilience and determination to register exemplary results in the corporate category, which comprised of teams from different institutions.

The NEMA Deputy Director of Environmental Education and Information Mr. Mamo Boru, was invited to officially start the men category race. Before he fired the starter pistol, he had a word with the athletes and in so doing educated them on the importance of the race and also urged them to actively conserve the environment.

{The writer is an intern at Corporate Communications Section}

The Walda NIE Project on course

By Evans Nyabuto

A team of four staff from the Headquarters traveled last month to Moyale for a field finding mission and monitoring of adaptation fund project at Walda, which is located in Sololo, sub county of Moyale sub county in Marsabit County.

The team was impressed by the progress made on the ground since NEMA channeled funds through the Kenya Red Cross (KRC). KRC is a sub-executing entity for the Adaptation Fund Project. The program is enhancing climate change Resilience for improved food security in the Marsabit County.

The project outcome is to improve community resilience to disasters, protection and social inclusion among communities living in Sololo Ward. The project covers a total area of 64 Acres of land which is under drip irrigation. The area under irrigation is served by four boreholes powered by generators. The land is divided into 260 plots allocated to the community members.

Walda Project started by Arid Lands who pumped money twice to the project but later failed. The project was then picked up by Kenyans for Kenyans Initiative and 104Millions channeled to the project at Walda. The project picked up very well but was faced with marketing challenge due to poor road network. NEMA took over the project in 2015 under the Adaptation Fund programme. A different approach was developed that would ensure the involvement of the community. Various activities have been undertaken under Adaptation Fund Programme, including; Community mobilization, registration of 140 and allocated their respective plots, procurement of fruit tree seedlings, clearing and ploughing of land; and replacement of vandalized irrigation system parts and repair of damaged pipeline systems.

The team which consisted of Dr. Macharia, Director EEIPP, Mr. Mamo, Deputy Director Mr. Nyabuto, Chief Corporate Communications Manager, Steve Ngatia and John thuo both attached at the NIE section, was privileged to meet with the farm committee, local area authority, Kenya Red Cross officials and some community members. Dr. Macharia, who is also the National

Implementing Entity Steering Committee Chair thanked the Walda Community for allowing and supporting the project. He said that the community should not take the project for granted as they were privileged to have been chosen.

He encouraged them not to give up on the project but work extra hard as they can access the market after the construction of the North Corridor transit road. He assured the stakeholders that NEMA continues to do monitoring and evaluation of the project at all stages. He promised that the NIE Secretariat will convene a meeting with the Kenya Red Cross Management at the headquarters and convince them the importance of community participation.

{The writer is the chief Corporate Communications manager}



NEMA Director Ayub Macharia,CCCM, Evans Nyabuto and Steve Ngatia during the visit

Authority effort to protect *Riparian Areas*

By Esther Wangu

Encroachment of riparian areas in Kenya has become rampant as the population surges. Rivers and wetlands have been under threat as human seeks more land for settlement and development especially in urban areas.

With this understanding, NEMA convened a sensitization meeting on protection of Nairobi riparian areas at KICC on 16th March 2016.

The aim of the meeting was to bring together various stakeholders in order to facilitate protection of riparian areas in Nairobi. They addressed key environmental issues in Nairobi that comprised wetlands, waste management, bio diversity, water management and quality, noise and excessive vibration, air quality regulations.



NEMA officers and other participants during the meeting at KICC [PHOTO: S. IRUNGU/NEMA]

As a way forward, it was agreed that all the concerned organizations will work closely in order to implement the adopt a river movement, a WhatsApp group and a twitter handle under the title adopt a river movement will also be organized by NEMA incorporating all the concerned groups to allow interaction and sharing of ideas on the subject.

In a speech read by Deputy Director EEI, Mr. Mamo Boru on behalf of NEMA Director General Prof. Geoffrey Wahungu, the DG stated that the Authority plays an important role in environmental education and awareness creation on various aspects of the environment as well as mobilizing communities for promotion of sustainable management and efficient use of environmental resources through public participation activities.

Mr. Mamo stated that a meeting dubbed Adopt a river movement will be convened at NEMA Headquarters on 22nd March and welcomed all to share ideas to be discussed during the meeting. He said that the meeting will aide in forming an up force to push through with the activities of the movement.



Team Environment Kenya during the workshop [PHOTO: S. IRUNGU/NEMA]

{The writer is an intern at Corporate Communications Sections}



NEMA Deputy Director EEI, Mamo Boru during the workshop [PHOTO: S. IRUNGU/NEMA]

Models up for environmental protection

By Samwel Irungu



Deputy Director EEI, Mamo Boru (5th R) and CCCM, Evans Nyabuto (5th L) joins Miss Eco Pageants at NEMA Headquarters
[PHOTO: S. IRUNGU/NEMA]

Miss Eco Universe Kenya pageants paid a courtesy call to NEMA headquarters on 21st February 2017 to seek partnership on creation of environmental awareness in their Counties.

Ten models emerged best during the Miss Eco-pageant held on 11th February in Laikipia County. The pageants were received by the Deputy Director Environmental Education and Information, Mr. Mamo Boru.

Miss Eco Universe Kenya contest brought together models from all the counties in Kenya but only 10 from Kitui, Tharaka Nithi, Nyeri, Kiambu, Bomet, Laikipia, Nakuru Counties emerged as the best. The best models will have an opportunity to be mentored where the best model will represent the country in the Miss Eco Universe pageant to be held in Egypt later in the year.

In this regard, the models sought to partner with NEMA on matters environment and be environmental ambassadors in their respective Counties especially on the area of waste management.



Deputy Director EEI, Mr. Mamo Boru speaking to the models in his office [PHOTO: S. IRUNGU/NEMA]

Mamo requested them to be NEMA's champions during its national environmental days such as World Environment Day which is normally observed in June. He assured them that the Authority will give them the necessary platform as environmental ambassadors to pass environmental messages to their Counties. He also challenged them to rise to the occasion as matters of environment requires a collaborative effort.

Miss Eco Universe is an international beauty contest founded in 2015 to awaken the world, through the theme of economic and environment.

{The writer is NEMA's Corporate Communications Officer}

NEMA officer awarded for Excellence

By Agnes Kamiri

Disability is not inability so the saying go. This old adage was best demonstrated by NEMA's Erick Ngondi as he marched forward to receive the most coveted Huduma Ombudsman award.



NEMA's Erick Ngondi receiving the award at KICC [PHOTO: A. KAMIRI/NEMA]

The ceremony took place at Kenyatta International Convention Centre on March 9th, 2017. Eric was accompanied by NEMA staff who could not hide their joy as he received the award.



Erick Ngondi holding the certificate where he was joined by NEMA officers [PHOTO: A. KAMIRI/NEMA]

Eric won the award that attracted more than 801 nominations for the two entries (individual and institutional categories) and emerged seventh in the individual category. He was recommended for "handling the public professionally and courteously, and excellence in his work.

Huduma Ombudsman Award scheme is an initiative by the Commission on Administration (Ombudsman) to award public servants who have exemplary done well in the public service for their exemption character of servant hood. Such initiative goes along way to motivate public servants to perform better.

Erick has demonstrated that disability is not inability and in so doing he stood out as a true inspiration to public officers with disability and to NEMA staff as a whole. He was able to overcome the challenge occasioned by sudden visual impairment and this has encouraged many of us here at NEMA.

This exemplary award will go along way in encouraging many young people with visual impairment to nurture and pursue their dreams. It will also motivate public servants to perform better.

The award was for exemplary service delivery, mentorship for persons with disabilities and for demonstrating the disability is not inability.

The nominations were reviewed, shortlisted and the final nominees ranked after thorough verification by the Awards Advisory Panel.

The NEMA fraternity commends Eric for a job well done and urge him to continue with the same spirit.

{The writer is NEMA's Ag. Principle Corporate Communications Officer}



AG Prof Githu Muigai (L) poses for a photo with NEMA's Erick Ngondi after the ceremony at KICC [PHOTO: A. KAMIRI/NEMA]

NEMA, KAM to foster sustainability

By Agnes Kamiri

The National Environment Management Authority has been spearheading the mainstreaming of Environmental Sustainability in the public sector mainly through Kenya Association of Manufacturers (KAM).

Global Compact Network has also been on the lead in sensitizing the private sector on Environmental sustainability issues and reporting.

To advance this agenda, Global Compact Training organized a training on 21st February, 2017 at the KAM headquarters. The training was conducted by Kenya Association of Manufacturers (KAM) and Global Compact network.

The aim of the training was to discuss possible ways of how to improve environmental sustainability in Kenya and also to partner with KAM on environmental sustainability.



Participants during the training at KAM Headquarters [PHOTO: A. KAMIRI/NEMA]

Global compact network is an initiative that calls for companies to align their strategies and operations with universal principle as on human rights, labour, environment and anti-corruption and take actions that advance societal goals such as Sustainable Development Goals (SDGs).

During the training, NEMA and KAM agreed on the areas of engagement which included; waste management, air pollution, climate change mitigation and adaptation, Environmental ecological enhancement, environmental education and awareness. Sensitization programme will be the starting point. Plans to draft An MOU between NEMA and KAM on the agreed areas of collaboration are underway.

[The writer is NEMA's Ag. Principle Corporate Communications Officer]

NEMA reviewing its ISO standards

By Samwel Irungu

Following the introduction of a new version of ISO 9001:2015 replacing the ISO 9001:2008, the Authority has been in the process of upgrading its Quality Management System to the new edition of the standard and seek certification to it.



NEMA management team during the ISO review workshop at Sweet Lake Resort Naivasha [PHOTO: COURTESY]

As a result, NEMA management team held a documentation workshop at Sweet Lake Resort Naivasha on 27th Feb-3rd March 2017 to strategize and review the existing SOPs and align them to the new standards. Part of this process included review of specific department Standard Operating Procedures (SOPs) and quality objectives.

The National Environment Management Authority (NEMA) was ISO 9001:2008 certified on 4th October 2011. Following the ISO 9001:2008 certification, NEMA has been better positioned to deliver on its strategic initiatives through commitment to continued excellence in service delivery to its customers.

The Authority has in place several documents which include Quality Management System (QMS), Quality Manual and Standard Operating Procedures (SOPs). The QMS ensures control of NEMA processes to achieve product and service conformance in a repeatable manner.

{The writer is NEMA's Corporate Communications Officer}

NEMA exhibits at the CoG Conference

By Anthony Waswa

The National Environment Management Authority participated in the just concluded fourth annual devolution conference at KWS Training Institute in Naivasha, Nakuru County. The event took place from 6th to 9th March 2017.

The Authority participated in the conference by mounting an exhibition to provide an insight of her devolved functions that counties through the County Environment Committees need to implement in order to achieve a clean and healthy environment.

President Uhuru Kenyatta officially opened the event and commended Counties for their efforts in making devolution work.



NEMA's Anne Owino engaging a visitor at the NEMA booth [PHOTO: S. IRUNGU/NEMA]



NEMA's Anthony Mwangi gives a NEMA branded bag to a police officer who visited Authority's stand [PHOTO: S. IRUNGU/NEMA]

The conference also sought to identify opportunities for change, growth and enhanced cooperation in changing perspectives, changing the narrative and entrenching devolution in Kenya and review the financial burden in applying two thirds gender principle as opposed to an inclusive policy in an electoral system.

The exhibition focused more on the waste management, one of the functions that were devolved. This was also the right opportunity to enlighten the counties on their roles and responsibilities in the overall management of the environment within their jurisdiction.

{The writer is NEMA's Graphic designer and Awareness Officer}

The three day event themed, "Devolution is transforming lives: Tell your story" sought to review the socio-economic impact of devolution over the past four years as well as discuss how devolution has been a tool for socio-economic integration in the country.

Enforcing environmental compliance

By Fanuel Mosago

News about collapse of buildings especially in urban centers has become a common phenominal in Kenya due to increasing cases of non-compliance to the necessary regulations.

NEMA works with other agencies to ensure developers abide to the necessary regulatory frameworks to ensure developments are sound.

NEMA as a regulatory agency is bound to enforce compliance to environmental regulations to save the environment as well as safeguard lives.

During a recent visit to Laikipia, NEMA Director General, Prof Geoffrey Wahungu was impressed by the way NEMA Laikipia County office was marking non-compliant constructions during inspections. According to CDE Laikipia County, Fanuel Mosago, the method has been very effective in enforcing compliance as well as making NEMA more visible.



Factories adopt Effluent Treatment Plant (ETP)

By Bomet NEMA County office

Effluents affect our environment and health, this demands cleaner waste water discharges to aquatic environment, thus the need for an effective and efficient system that treats or minimize pollution prior to discharge.

Environmental Management and Co-ordination (Water Quality) Regulations, 2006 apply to water used for domestic, industrial, agricultural, and recreational purposes; water used for fisheries and wildlife purposes, and water used for any other purposes. Different standards have been outlined which apply to different modes of usage. These regulations provide for the protection of lakes, rivers, streams, springs, wells and other water sources from effluence discharge.

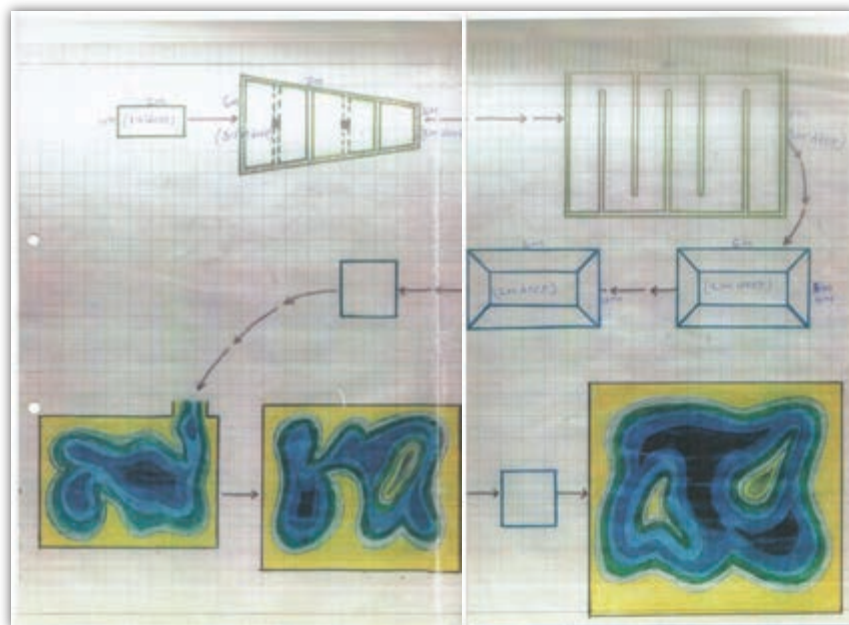
The National Environment Management Authority, Bomet County in consultation with the relevant lead agencies have taken measures to ensure compliance with the said standards by the owners or operators of the effluence discharging facilities within Bomet County, firstly, by promoting the construction of Effluent Treatment Plant (ETP) and application of an effluence discharge licence for the discharging facilities.

The ETPs have been adapted by James Finlays factories, KTDA factories, Evergreen tea factory (under construction), slaughter houses and milk chilling plants. Waste water is treated through two processes: physical treatment and biological treatment. The main process includes anaerobic ponds, facultative ponds, and maturation ponds.

Simple ETP systems consist of manholes which can range from one to three - these manholes have drainage channels through which all effluence from the facility passes through towards the sedimentation tank.

The second stage of sedimentation, also known as anaerobic pond, has one deep sedimentation tank which plays an important role sludge settlement. The third stage is the gravel cell, slows down the rate of effluent flow, the fourth stage, which is a day cell has liming or clay soil lining and plants, this plants includes the following microalgae Euglena, Oscillatoria, Chlamydomonas, Scenedesmus, Chlorella, Nitzschia, Navicula and Stigeoclonium microalgae etc. used for nutrient removal.

Bio-treatment with microalgae is particularly attractive because of their photosynthetic capabilities, converting solar energy into useful biomasses and incorporating nutrients causing eutrophication. Algae can be used in wastewater treatment for a range of purposes, some of which are used for the removal of coliform bacteria, reduction of chemical and



biochemical oxygen demand, removal of Nitrates (*Chlorella vulgaris*) and/or Phosphorus, and also for the removal of heavy metals, *Cladophora glomerata* is an excellent accumulator of zinc.

The last stage has a surface cell which can range from a minimum of one to three ponds; these are maturation ponds before the final discharge into the environment. This Effluent Treatment Plant has appropriately marked sampling points which are properly maintained.

Plate 1: A simple model of effluent treatment plant used in Evergreen tea factory, within Bomet County

Advantages of simple effluence treatment plants are

1. *Lagoon systems can be cost-effective to design and construct.*
2. *They use less energy than most waste water treatment methods.*
3. *They are simple to operate and maintain and generally require only part-time staff.*
4. *They can handle intermittent use and shock loadings better than many systems, making them a good option for slaughter houses, tea factories, milk chilling/ cooling plants etc.*
5. *They are very effective at removing disease-causing organisms (pathogens) from wastewater.*

The disadvantage of this simple effluent treatment plant is that odour can become a nuisance during algal blooms and lagoons can provide a breeding area for mosquitoes and other insects. This can be mitigated with adequate and proper maintenance.

Lamu Green Point launched

By James Kamula

Lamu green point was officially handed over to NEMA by Kenya Marine Fisheries and Research institute (KMFRI) at a function that was held in Lamu County on 21st January 2017. The green point was constructed with support from the World Bank through the Kenya Coast Development Project (KCDP).

The event was organized by KMFRI in collaboration with NEMA and State Department of Public Works. KMFRI is the coordinating institution for KCDP which is charged with procurement of all infrastructure activities on behalf of the project implementing agencies. It brought together senior officials from NEMA, KMFRI, State Department of Public Works, EMARC Building & Construction Company Ltd and Northwind Consultants Ltd. Mr Stephen Mwangi who represented KMFRI Director, presided over the event together with KCDP Coordinator, Dr. Jacqueline Uku. Mr Stephen Katua represented the NEMA DG in the function.



The newly build NEMA Lamu green point. Use of the green point-cum office has started following the handing over (PHOTO: JAMES KAMULA/NEMA)



Mr. Stephen Katua (C) receiving the keys to the green point on behalf of NEMA DG from KMFRI Director representative, Mr. Stephen Mwangi (L) and KCDP Coordinator, Dr. Jacqueline Uku during the handing over function. Looking on is other NEMA officials. [Photo: JAMES KAMULA/NEMA]

The green point, which will also serve as NEMA Lamu County office, is part of the activities being coordinated and implemented by NEMA under the Environmental Governance sub-component of the project. Construction of the facility was started in December 2015 and completed in June 2016.

While speaking during the function, Mr Stephen Katua acknowledged the World Bank for the support received towards construction of the green point. He also thanked KMFRI for overseeing construction of the green point on behalf of NEMA and promised that NEMA will make best use of the green point to demonstrate good environmental management and governance practices in Lamu County besides using it as an office.

The green provides a platform where NEMA, the local communities and the business community can benefit from each other with exchange of knowledge aimed at promoting green growth and sustainable development in Lamu County.



Participants pose for a group photo during the green point handing over function [Photo: James Kamula/NEMA]

Artisanal gold mining in Migori County:

A blessing or a curse?

By Parnwell Juma Simitu and Juddy Susan Arieko

Migori County is blessed with mineral resources that are scattered within the county. Such minerals include Gold in Masara, Macalder, Masaba, Kehancha, Kitere, Kamwango (Rongo), Migori and Francis mines in the Kuria-Transmara border. Gold is hosted in quartz veins and it is also associated with massive sulphides namely pyrrhotite, pyrite, chalcopyrite and galena. Mining has been an ongoing activity in the country since independence with artisanal gold mining being the most dominant type.

In Migori County, mining methods are surface and underground. Surface mining involves both alluvial mining and mechanical mining such as open cast while underground mining involves supported and unsupported mining methods. The perilous gold mines have been described as tunnels of death, but the allure of instant wealth still attracts many Migori residents. An incident-free day means a lot to county gold miners. Many have been trapped by landslides in dark tunnels while others have suffocated from fuel fumes emitted by generators used to pump water from the shafts.

Most artisanal miners look sickly from poor handling of deadly mercury and other dangerous metals, which also end up being soaked in soil and water bodies. In as much as mining has a lot of serious health risks and even potential death, many still venture into risky mining activities just so as to make ends meet. Even with the hazards they face deep in the mines such as oxygen deficiency, radiation from rock strata, airborne dusts, extreme temperatures and humidity, insufficient lighting and manual labour, the miners are undeterred. Surprisingly, many miners consider the dangers associated with mining as normal hazards associated with the job.

Many scholarly research work as well as tales and incidents from the mines spell a wave of unimaginable challenges/ and effects of great scope and magnitude, which often go unnoticed, yet pose a terrible threat not only to the miners but also to the environment.



Artisanal miner going down the pit (Osiri). Many artisanal miners have been trapped by landslides in dark tunnels while others have suffocated from fuel fumes emitted by generators used to pump water from the shafts.

To the environment, these effects include:

- The miners use poisonous or corrosive reagents such as cyanide, mercury, acids and other chemicals, most of which are controlled substances. These substances have high impacts to both human beings and environment. Air and noise pollution, heavy metals pollution, mine caving and mercury pollution.
- Emission of dust suspended particles and gases due to activities such as blasting of rocks to get ore causes air pollution. Non- vegetated or uncapped tailings dams release dust and when radioactive elements are found in the ore, radiation is emitted. Heavy metals such as sulfur dioxide may also be introduced into the air by unsafe smelter operations with insufficient safeguards.
- Contamination of underground water as a result of seepage and infiltration of leached drainage for instance through tailings dams and waste rocks heaps, because they are as source of acidic drainage water.
- Adverse effects on natural vegetation due to leached trace element.
- Deforestation for the purpose of mining hence resulting to loss of flora and fauna.
- Degradation of soil quality, fertility and makes it toxic.
- Wastage of land as usually mining renders land unsuitable for either industrial or agricultural purposes.
- It spoils the beauty of the surroundings and loss of landscape. Destruction of the ecosystem and its stability due to the toxins introduced into water and soil thus killing many species and even loss of habitat.



Artisanal mining at Game in Migori County. The perilous gold mines have been described as tunnels of death, but the allure of instant wealth still attracts many Migori residents.

Since illegal mining is rife in the county, many miners are not trained and thus are not aware of the impending risks and dangers of mining and the need to acquire proper Personal Protective Equipment. May have thus suffered serious respiratory problems caused by chronic exposure to dust, poisonous gases and even deadly non communicable diseases like cancer, resulting from exposure to heavy metals.

A significant number have also lost their lives due to rampant collapse of tunnels. It is important to note that a lot of focus has been done on the challenges of mining and the effects it bears to the environment and to the miners. However, a lot needs to be done in order to reduce or even alleviate these challenges.

Continued next page



Separating the ore. Women are also involved in mining, despite the danger of the activity.

It is for these reasons that the national and county government, government agencies, the private sector, NGOs and well wishers need to pool resources, technical skills and know-how to implement measures that would make the mines safe and environmentally friendly. These would include:-

- *Use of alternative substances in mining such as Borax would be recommended since it has less impact to environment.*
- *Limiting the amount of mercury released into the environment by involving relevant technologies, using of protective devices for control of both air and noise pollution effects and doing of continuous mine rehabilitation programs for purposes of restoring degraded land especially in exhausted mines. Mine caving can be minimized through the adoption of supported mining methods such as stull stopping and cut and fill, which generally makes the roofs of the mines stable, limited explosive usage can also reduce chances of mine caving.*
- *Closing illegal and unregulated mines.*
- *Formulating, implementing, monitoring and evaluating better legislation and regulations that ensure that all players i.e. locals, county government and national government accrue benefits equitably, from the available mines. In addition, ensure safety at the mines at all times. The Mining Act, 2016 strives to achieve this and it should be implemented to the letter.*
- *Improving environmental performance- This could be done through systematically examining environmental impacts and adopting mitigative measures to make mining less destructive to the environment.*
- *Replenishing the environment-This entails activities like replenishing native soils and grass, cleaning excess waste, proper waste removal, site inspections, reforestation and reshaping land, restoring top soil, planting native grass, tree or ground cover natural to the site.*

- *Accurate tallying of toxic mining waste- artisanal miners do not provide accurate reports on the amount of toxins deposited into the environment e.g. the soil. Thus, environmental experts need to pick such soil samples and submit to the designated laboratories for analysis.*
- *Closing and reclaiming sites of shut down mines- When shut down mines are not reclaimed they become a den of illegal or unregulated mining activity. However, by reclaiming such sites, their reusability can be restored.*
- *Awareness creation to the public especially miners on the need to acquire the relevant PPE as well as correct use of the same so as to enhance their safety at the mines.*

In conclusion, therefore, to achieve sustainable mining, there is need for the adoption of technologies, practices and mine processes that are implemented so as to reduce environmental impacts that result from extraction and processing of metals and minerals. Embracing mining technologies that have less impact to humans and environment, public awareness and strict implementation of relevant laws such as the mining act, 2016 and EMCA, CAP 387 would go a long way in making Gold mining a blessing rather than a curse!.



Ponds where gold is mixed with mercury. Mercury is a poisonous substance with high impacts to both human beings and environment.

Kenya ratifies Paris Agreement

By Esther Wangu



The Paris Climate Change agreement is set to enter into force for Kenya on 27th January 2017. This follows the parliament's ratification of the agreement.

For Kenya, the Paris Agreement will have to go through a parliamentary approval as per the Treaty Making and Ratification Act of 2012. The Cabinet Secretary Ministry of Environment, Natural Resources will submit the Agreement to the Cabinet together with a memorandum outlining: any national interests which may be affected by ratification of the treaty, any constitutional implications of the Agreement and proposed amendment to the constitution if any, ministerial responsibility, financial implications among other key details.

Once the Cabinet approves the ratification of the Agreement, the Cabinet Secretary will then submit the Agreement and the memorandum to parliament for approval. The document may have to go through the two houses of parliament, the Senate and the National Assembly.

If the Agreement is approved by Parliament without any reservations, the Cabinet Secretary shall within thirty days from the date of the approval of the ratification, requests the Cabinet Secretary to prepare the 'instrument of ratification' of the Agreement. This is a formal document indicating that Kenya has completed all the necessary processes and signifies consent to be bound by the agreement making Kenya a Party to the Paris Agreement.

The Paris Agreement will then enter into force 30 days after submission of these documents by at least 55 parties to the Convention accounting to at least 55% of global emissions. Depending on a country's legal requirement, countries can deposit their instruments of ratification, acceptance or approval on the same day it signs or much later.

For the Paris Agreement to fully become legal, it depends on how quickly countries are able to complete their domestic approval processes. Concerted efforts from the civil society, private sector and all non-state actors will be required to press our governments to ratify the agreement. The Kyoto Protocol entered into force eight years after its adoption in 1997, we cannot wait that long.

The next area of interest in this process will be the change of status of the intended national climate action plans referred to as the Intended National Determined Contributions (INDCs). Upon signing the Agreement, a country's INDC will become its Nationally Determined contribution (NDC). Countries will communicate their first NDC when they submit their instruments of ratification documents. Each country has the opportunity to review its INDC before approving the Paris agreement by making it more ambitious. Kenya submitted its Intended Nationally Determined Contribution that seeks to lower the greenhouse gas emission to 0.1%. The agreement creates a link to the Sustainable Development Goals (SDGs) and calls for urgent action to combat climate change and its impacts.

Paris Agreement is not perfect, but it has a quick wins for developing countries key among them being: a balanced focus on both adaptation and mitigation, scaled up financing for developing countries through the Green Climate Fund, and the proposal to provide capacity building and technology transfer to developing countries.

For Kenya to fully implement her INDC and achieve a 30% emission reduction, the country will require over USD 40 billion. International support in form of finance, technology development and transfer and capacity building will be needed to achieve this. Being a party to the Agreement will ensure that Kenya receives the much needed international support to achieve a low carbon climate resilient development pathway.

NEMA is already implementing the Adaptation Fund programme in the country and is looking forward to receiving funding from Green Climate Fund to enhance resilience and mitigation to climate change in the country.

{The writer is an intern at Corporate Communications Section}



nema



The Authority core services include:

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- Environmental Impact Assessment Licensing
- Environmental Auditing
- Environmental Incident Management
- Environmental Inspection
- Environmental Information, Education and Communication (IEC)
- Environmental Reporting
- Environmental Planning
- Development of Curriculum for Training of Environmental Impact Assessment/Audit experts
- Administration of an Environmental Awards scheme



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