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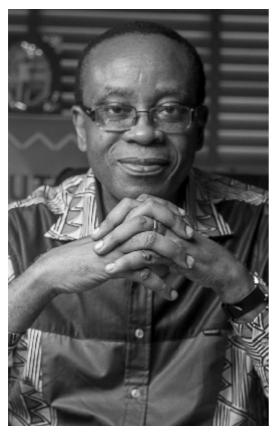




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HOME RUN

The struggle for environmental/climate justice is key to restoring our human and collective dignity and entrenching a sense of harmony with nature and the wellbeing of Mother Earth. In this edition, we serve you a report from agroecology workshop held in Thika, Kenya, which brought together farmers and advocacy organizations to interrogate the concept of agroecology as the path to sustainable agricultural practice with local-knowledge based science.

We have had occasion to denounce the permitting nature of the Nigerian National Biosafety Management Agency (NBMA) — a regulatory agency that specializes in granting permits to any application that reaches its table. We regret that rather than improving, the agency continues to slide and at the close of 2017 endorsed the importation of genetically modified maize that had earlier been impounded and ordered to be repatriated by the importers. Shocking? Beyond that. It is plain shameful! We bring you our

statement: When GMO applications are mere formalities.

False solutions orchestrated by greedy corporations and backed by allied promoters alike are being propagated as remedies to food crisis. They all claim they want to feed hungry Africans. Their thinly veiled neocolonial arguments are unfortunately bought by governments that ought to protect our peoples rather than the profit profiles of these entities. We serve you articles that urge that we tread with caution in order not to compound our food production problems. We bring you an interesting article: Science with Caution: Why GMOs are a Bad Idea to challenge your thinking and provoke corresponding actions.

For over one year, Port Harcourt, Nigeria's oil capital has been blanketed by soot from a variety of hydrocarbon pollution sources. We bring you report from an #EndtheSoot rally that was held in Port Harcourt to raise the awareness of the impact of the down pour of soot, its attendant effects and to demand that the polluters are brought to book.

We also bring a concise and highly informative paper on oil pollution in South Sudan. It is written by the executive director of our partner organisation in that country. Read Environmental and Public Health Catastrophe in the South Sudanese Oilfields: Oil, Wealth, and Health.

As usual, we serve you interesting poems from renowned poets and also books you should read.

Until victory! Nnimmo

AGROECOLOGYTHE FUTURE OF AGRICULTURE IN AFRICA

By: Joyce Ebebeinwe

frica is faced with the challenge of feeding its burgeoning population. With this challenge are the concerns of how food supply can be assured; who the key players will be and what supports they will need.

This challenge has birthed many researches and innovations in order to solve agricultural problems and ensure food security. Many of such innovations however are profit driven and tend to foster dependence of people on foreign corporate forces and at the same time sideline indigenous knowledge systems. Industrial agriculture for example claims to increase crop yields but this, even if it were true, comes with loss of biodiversity, extensive soil damage with negative impacts on food and natural resources.

The bulk of the food produced on the continent is by small-holder farmers using little or no artificial inputs. They use 30% of the resources and produce 70% of the food. In this scenario, African women own just 2% of land, but produce 80-90% of all food. This is according to the Third World Network.

A sustainable solution to food challenges in Africa is one that builds on these farmer's knowledge and innovations; ensures access to lands, seeds and water; nourishes the soil and preserves biological diversity with respect to future generations.

Agroecology is that solution.

A common understanding on Agroecology

In April 2018, Bread for the World brought together in Thika, Kenya, over 20 farmer and advocacy organisations representing more than 12 African countries which are faced with intense challenges in agricultural production.

The meeting aimed at driving a common understanding of agroecology and identifying areas in which participants may need to network to exchange knowledge of agricultural best practices.

Agroecology was agreed to be a production system based on agricultural standards that take into use community technical-knowhow, enables quantity and quality production and also preserves the soil for future generations. It is a sustainable type of farming that uses natural inputs to preserve and promote biodiversity and maintain a natural balance in the ecosystem.

Agroecology is a pillar of the food sovereignty framework which promotes access to land, water, seeds and other productive resources to small scale farmers, along with economic opportunities. It emphasizes the capability of local communities to experiment, evaluate and apply innovations through farmers' research and actions.

Dimensions of Agroecology

The meeting looked at four dimensions of agroecology which are the political, ecological, socio-cultural and economic dimensions.

The political dimension of agroecology ensures access to resources and knowledge; encourages co-decision making by producers and consumers and supports coherece and representation of vulnerable groups through interest groups.

The ecological dimension focuses on positive synergies in the agroecosystem; nutrient and material cycles in the production system; Less external inputs; Soil health and fertiliy; biological diversity; resilience to climatic variations and reduced emission of greenhouse gases.

The socio- cultural dimension values peasants'identity, knowledge and innovations encourages horizontal knowledge transfer; gender equality and inclusion of youths and ensures healthy, culturally adapted diet and improved quality of life in rural areas.

The economic dimension of agroecology ensures short and fair value chains; strengthens local economic cycles; diversifies incomes; increases economic resilience; reduces expenses on external inputs and provides employment in rural areas.

Obstacles to Agroecology

Some factors identified to be hindering the advancement of agroecology include: Lack of policy support, defective agricultural laws and foreign influence on policies, lack of adequate monitoring of seeds imports, lack of indigenous knowledge transfer, lack of access to lands and genetic pollution.

Opportunities for Agroecology

In the international policy space there have been several declarations in support of agroecology as a way forward in agriculture. The United nations Food and Agriculture Organisation (FOA) in its 2018 Scaling Up Agroecology Initiative states: "High-input, resource-intensive farming systems, which have caused massive deforestation, water scarcities, soil depletion and high levels of greenhouse gas emissions, cannot deliver sustainable food and agricultural production.

Needed are Innovative systems that protect and enhance the natural resource base while increasing productivity. Needed is a transformative process towards 'holistic' approaches such as agroecology."

The 2008 report of the International Assessment of Agricultural Knowledge, Science and Technology (IAASTD) paves way for agroecology. This report which was sponsored by the World Bank and the United Nations and written by over 400 scientists dismissed the potential of genetically modified crops to benefit the world's poor.

It acknowledged that agroecology plays an important role in contributing to the eradication of hunger and extreme poverty, and as a means to facilitate the transition to more productive, sustainable and inclusive food systems.

Agroecology contributes positively to 10 of the 17 sustainable Development Goals (SDGs) adopted on 25th September 2015, by the United Nations General Assembly. Poverty reduction, climate action, zero hunger, good health and well being, reduced inequality, life on land etc. are addressed in agroecology.

What should be done?

Governments should invest in research on agroecology and support small scale farmers with extension services along with infrastructural resources.

There is the need for strengthened horizontal knowledge transfer on agroecology best practices and more should be done to ensure inclusion of youths in agriculture/agroecology.

According to the Alliance for Food Safety in Africa (AFSA), "agroecology is the future of farming. It's diverse — like nature. It's productive — doubling yields in just a few years. It's resilient to climate change, and puts carbon back in the ground. It's efficient with less input, less waste. It's culturally appropriate with local innovations and solutions".

Overall, Africa has the capacity to feed itself and it will. Agroecology is the way.



Fury of The Fisherwoman

by Patrick B. Naagbanton

The woman is old.

Older than other fisher women in the furious creeks

Emaciated, hungry and sad

Her palms glued to the emaciating paddle,

Fuming and determined,

She defies the boiling rivers with her old, dug-out canoe.

Emaciating, hungry and sad,

Yet the irate waves couldn't stop her

Her journey from the Isaka into old Bakana A swift, sweet subsiding surge daring a

starved,

Sad and strong-minded woman,

Her canoe splatters the red waves of

misfortune

Which weaken the hunger of the fisher

woman

This is the fury of the fisher woman.

What is Africa to her?

By Harry Garuba

In the Texas summer, the talk was always the weather.

The heat wave that will not go away,
The heat and humidity of the days and
nights

Coming out of the air-conditioned library this hot day

The young woman with the drooping nametag

On her firm breast stopped to make small talk...

"It's hot today, hey? So, so hot," she says, fanning her face

with the five fingers of one braceleted land

I nod, in-different, thinking of cool streams and the bliss

The shade of the iroko tree gives a sunscorched feet,

Thinking of my Africa of the sun and the shade

Then a smile of recognition smears her lips "Oh, but must be used to it. You come from Africa, yeah?"

I wanted to respond, to say to her knowing smile:

Today it's cold in Africa, so cold in fact that - as we speak –

Snow has blanketed the Drakensberg and on the other side

Of the boundary, in the mountain

kingdom, the birds have fled

As the severe snow rolls out a white carpet of death over the kraal

Now, the king and all his cattle, together with all his lions and his elephants,

His rhinos and his leopards and his buffalos are all trapped indoors...

I want to say so much more...

But what is Africa to her?



CLIVIATE CHANGE & FOOD SECURITY or Sonali Sunny Gandhi

limate change has a significant potential to increase food insecurity and malnutrition in the world. Climate change exacerbates the risks of hunger and under nutrition through extreme weather events such as droughts, floods and storms that destroy crops, infrastructure, and community assets, therefore worsening livelihoods and exacerbating poverty and vulnerability.

Over the past ten years, the number of violent conflicts around the world has increased significantly, particularly in countries already facing food insecurity, hitting rural communities the hardest and having a negative impact on food production and availability. Climate change affects all dimensions of food security and nutrition- that is food availability, food access, food utilization and food stability. mate change has a significant potential to increase food insecurity and malnutrition in the world.

Indeed, changing climatic conditions can initiate a vicious circle where infectious disease causes or compounds hunger, which, in turn, makes the affected populations more susceptible to infectious disease.

Essentially all manifestations of climate change, be they drought, higher temperatures, or heavy rainfalls have an impact on the disease pressure, and there is growing evidence that these changes affect food security. The link between climate change and food security shows that the agricultural sector must adapt to reduce emissions and ensure sustainability, but also grow to feed an increasing global population.

Secondly, because almost one billion people go to bed hungry today, and with crop yields set to drop 20% in some areas as a result of climate change, action to tackle the trend is urgently needed.

Empirical evidence suggests that in the period from 1980-2008 there was an increases in temperature that resulted in average global maize and wheat yield reductions of 3.8% and 5.5% respectively. Climate change could also have an impact on rural incomes given that agriculture is highly sensitive to climate patterns, changes in temperature and rainfall can reduce agricultural output and therefore reduce rural incomes and high rural poverty.

Disasters particularly droughts have severe detrimental impacts on nutrition. Research shows that children born during a drought are often likelier to suffer from malnourishment. It has been noted that in Ethiopia, children who were born in an area affected by a disaster are 35.5% more likely to be malnourished while in Kenya, children born in drought-prone areas are 50.4% likelier to be stunted.

In Niger, the chance of being malnourished more than doubles for children between the

ages of one and two who were born during a drought. Irrespective of the location, children born during a disaster, are up to 55.5% likelier to be undernourished.

Displaced populations are experiencing high levels of food insecurity, under nutrition and are most vulnerable in the world. The number of refugees and internally displaced persons (IDPs) has increased significantly with the greater number of conflicts, doubling from 2007 to 2016 to total about 64 million people. One in every 113 people is now either refugee, internally displaced or seeking asylum. Conflict and violence are causing and protracting food insecurity in host communities as well.

For example, the civil war in the Syrian Arab Republic has driven more than 6 million people to flee their homes to other locations within the country and another 5 million to neighboring countries. All these lead to food insecurity.

Recent studies suggest that climate extremes might have negative impact on nutrition outcomes as it increases the incidence of diseases, such as malaria, thereby increasing the caloric requirements of affected populations and reducing the body's absorption and utilization of essential nutrients, effectively increasing overall nutritional needs.

A recent study found that no African country is likely to reach the UN target of ending childhood malnutrition by 2030, and that malnutrition indicators remained "persistently high" across the length of the Sahel, with 14 countries affected.

A report titled Characterization and Management of Food Loss and Waste in North America, issued by the Commission for Environmental Cooperation (CEC), Canada, highlighted adverse socioeconomic and environmental impacts of

food loss and waste, and actions that the industrial, commercial, institutional, government and nongovernmental sectors can implement to mitigate these impacts.

The report estimates that 168

million tons of food is was ted in North America each year, with Americans wasting 915 pounds per capita, Canadians 873 pounds per capita and Mexicans 549 pounds per capita. The report also estimates that the 193 million tons of greenhouse gas (GHG) emissions resulting from the lifecycle of wasted food, from production to disposal (equal to the GHG emissions generated by 41 million cars driven continuously for a year), 17.6 billion cubic meters of water wasted and 55 million acres of cropland production wasted.

According to Corinne woods of the World Food Programme (WFP), if we can tackle the problem of food waste, we could feed 9 billion people every day. To reduce the wastage, WFP is helping countries to address issues of storage and production through improved systems and by community education.

Losses

Natural disasters from droughts to floods are costing farmers in poorer countries billions of dollars a year in lost crops and livestock, and it's getting worse due to climate change. The United Nations' Food and Agriculture Organization estimated agricultural losses totaling \$96 billion in a

decade through 2015 from weather events in developing nations, with Asia accounting for half the amount. An assessment in February 2016 found that 70-80 percent of corn, wheat and barley cultivations were damaged or destroyed in Salah al-Din, while in Ninewa 32-68 percent of land normally used for wheat cultivation was either compromised or destroyed, as was 43-57 percent of the barley cultivation.

In 2010, the Russian drought resulted in wheat yield reductions of 40 percent in key production areas, and the Pakistan floods resulted in losses of half a million tonnes of wheat.

Together with market speculations, these events led to price increases. Heatwaves became more frequent over the 20 century. In the summer of 2003, Europe experienced a particularly extreme heat event.

A record loss of 36 percent crop yield for corn occurred in Italy. Over the past 10 years, category 5 hurricane events have resulted in an average loss of cultivated land of 10 percent in the coastal states of Mexico each year, effecting mostly farmers who rely on a single crop. In South Asia, where the most vulnerable people live in the river deltas of India, Myanmar, Bangladesh, and Pakistan, population growth has contributed to increased farming in the coastal regions most at risk from flooding and sea-level rise.

Solutions

There is an emerging consensus that changes in temperature and precipitation can have detrimental impacts on the food security of the most vulnerable people, in the absence of adaptation and mitigation.

However, the aggregate impact of climate change on food security is not fully understood.

Many studies suggested that climate change will negatively affect food security at the global level in the long run while other studies indicate that food prices will increase as a result of climate change, thereby affecting the ability of poor farmers to purchase food. In the shorter term, it is expected that the greatest gains in food access will be in South Asia and Latin America with marginal gains in Sub-Saharan Africa.

Climate variability and climate extremes are likely to pose greater challenges for food stability. Climate impacts on pest and disease patterns will also affect the ability of the body to absorb and utilize nutrients, and at the same time disease increases nutrient needs.

Food retailers can also organize "waste less" campaigns. For example, in the U.S., Kroger's initiative "Zero Hunger, Zero Waste" uses crowd sourcing to interact with consumers and gather ideas for food waste and hunger prevention. Collaboration with farmers, food processors, nonprofit organizations and social ventures in the broader food ecosystem will help food retailers achieve their food waste goals. And as food retailers take up a deeper interest in their communities' well-being, they can share the goal of reducing food waste.

Food insecurity itself can become a trigger for violence and instability, particularly in contexts marked by pervasive inequalities and fragile institutions. Therefore, conflict-sensitive and timely interventions aimed at improving food security and nutrition can contribute to sustaining peace.

Individuals can make personal efforts to reduce food wastage through buying local or even home-grown food. Creating awareness among children and young people in school, colleges and university on food security would also be fundamental as they have the knowledge, determination and social-moral responsibility to make real change. There is need for behavioral revolution change so that the young generation could create new market trends with their choices forcing private businesses to match consumer demands and needs.

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- HOMEF Team Building/ Retreat
- FishNet
 Community
 Dialogues.
 - SustainabilityAcademy





ealth of Mother Earth Foundation (HOMEF) on Thursday 19th April, 2018 joined other Civil Society Organizations and concerned citizens in Rivers State to demand immediate, un-politicized and sincere efforts from the government of Rivers state towards ending the downpour of black soot in the state and its environs.

The demand took the form of a peaceful march to the Rivers State government house, state office of the Department of Petroleum Resources (DPR) and the State Assembly complex.

. HOMEF and other CSOs demanded among other things that the governor and his government initiate "a street by street public health awareness campaign" on the soot issue, investigate the issue and determine the sources of the pollution and ensure that the polluters pay for the menace and in addition to putting in place a supplementary budget for research for the purpose of determining the extent of impacts on residents, adequate compensation from organizations and persons whose activities have resulted to the two-year old soot downpour, with the aim of halting it.

Responding to the protesters, who kicked off their march from Isaac Boro Park, Mile 1 at eight o'clock in the morning, Rivers State governor who received the protesters through his deputy, Mrs Ipalibo Banigo, thanked the protesters for defending the environment, while heaping blames on the federal government whom she said controls the petroleum and security agencies whose activities have contributed to the soot situation.

"I want to thank you for coming out to defend the environment and to tell you that the environment is the concern of all of us. There is nobody that is immune to breathing bad air. The environment cannot be politicized, and so we want to tell you that the agencies that are responsible for flaring these obnoxious things are directly under the Federal Government of Nigeria. The Federal Government owns the refineries that have been flaring gas. The Federal Government owns the security agencies that have been using unusual and uncivilized methods to detonate bunkering and such activities," she said.

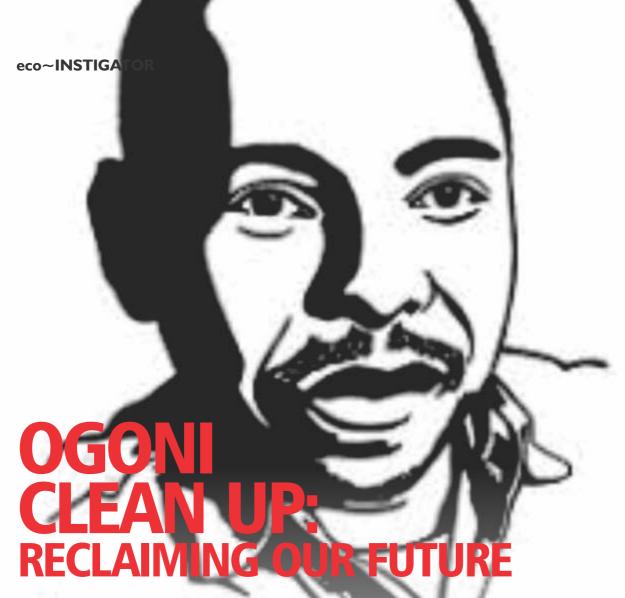
The soot is cancerous, and poisonous and traceable to respiratory infections, asthma, cardiovascular infections, skin infections among other diseases.

Since the soot downpour began in 2016, HOMEF has been at the vanguard of demanding that the federal and state governments, concerned agencies and By:InnocentEteng









ollution is the number one killer in the world today. It is deadlier than the wars in the world today, than smoking, malnutrition and others.

This was the finding published by one of the world's most respected medical journals, on October 19, 2017. The research looked into air and water pollution, among others. We all know that the Niger Delta is classified among the top ten most polluted places in the world, and we all know some of the key findings of the United Nations Environment Programme (UNEP) report on the assessment of the Ogoni environment. All water bodies are polluted with hydrocarbons, soils polluted to a depth of 5 metres at a number of places and benzene is found at levels 900 times above World Health Organisation's standards. We all know that the Niger Delta has the lowest life

expectancy level in Nigeria. This is why the clamour for a clean-up of the region has been a long-drawn struggle.

The history of the struggle for the clean-up of Ogoni environment is that of the struggle for environmental, socio-economic and political justice. This struggle picked steam in the late 1980s and peaked in the early and mid 1990s. The enterprise can be characterized as a struggle for the right to live in dignity, pursue self-actualization and build a future for upcoming generations. The bedrock was the demand for justice. This was captured through well-articulated demands for the remediation of the damaged Ogoni environment. With cautious and robustly peaceful organising, the demands were catalogued in a carefully crafted Ogoni Bill of Rights (OBR) of 1990.

The Bill noted that although crude oil had been extracted from Ogoniland from 1958, its inhabitants had received NOTHING in return. Articles 15-18 of the OBR illustrate some of the complaints of the people:

- That the search for oil has caused severe land and food shortages in Ogoni— one of the most densely populated areas of Africa (average: 1,500 per square mile; national average: 300 per square mile.)
- That neglectful environmental pollution laws and sub-standard inspection techniques of the Federal authorities have led to the complete degradation of the Ogoni environment, turning our homeland into an ecological disaster.
- That the Ogoni people lack education, health and other social facilities.
- That it is intolerable that one of the richest areas of Nigeria should wallow in abject poverty and destitution.

This Bill of Rights was the precursor to the Kaiama Declaration of the Ijaws, Ikwerre Rescue Charter, Aklaka Declaration for the Egi, the Urhobo Economic Summit, Oron Bill of Rights and other demands of peoples' organisations in the Niger Delta. It became an organising document for the Ogoni people and also eventually inspired other ethnic nationalities in the Niger Delta to produce similar charters as a peaceful way of prodding the government into dialogue and action.

Although the OBR has never been directly addressed by government, the detailed assessment of the Ogoni environment that culminated in the release of the now famous

United Nations Environment Programme (UNEP) report on 4 August 2011 can be said to be a response to some of the demands of the OBR. We note at this point that before the report was released, information leaked out that the bulk of the blame for the pollution of Ogoni had been placed on the people.

This led to a flurry of protests and by the time the report was eventually released the blame for the massive environmental destruction was more acceptably situated. It could not have been otherwise because the payment for the study was made on the basis of the polluter-pays principle by the lead international oil company (Shell Petroleum Development Company - SPDC) that operated in the area.

RESILIENT AND SUCCESSFUL STRUGGLES

Community organising succeeds where the people have identifiable goals that address their needs or issues. The resilience of a struggle is assured when the people and their leaders have a clear strategy, are able to adapt to unfolding situations, and are willing to change tactics as may be necessary without repudiating the core of what brought them together.

This flexibility is possible when the people have a shared understanding of what their collective objectives are and what sacrifices may need to be made to attain the targets. The Ogoni struggle, through the leadership of the Movement for the Survival of Ogoni People (MOSOP) has been an exemplary case study for other nationalities to learn from.

Understanding the depth of the crisis and determining to speak truth to power was aptly captured in one of the last poems, Silence Would be Treason, that Ken Saro-Wiwa wrote while in prison:

But while the land is ravaged
And our pure air poisoned
When streams choke with pollution
Silence would be treason

As we consider the Ogoni clean-up today, we bear in mind that Ogoni has become a global metaphor for resilient community organizing against impunity. Saro-Wiwa foresaw this when he wrote in his prison memoir, A Month and A Day:

In virtually every nation state there are several 'Ogonis'—despairing and disappearing people suffering the yoke of political marginalization, economic strangulation and environmental degradation, or a combination of these, unable to lift a finger to save themselves.

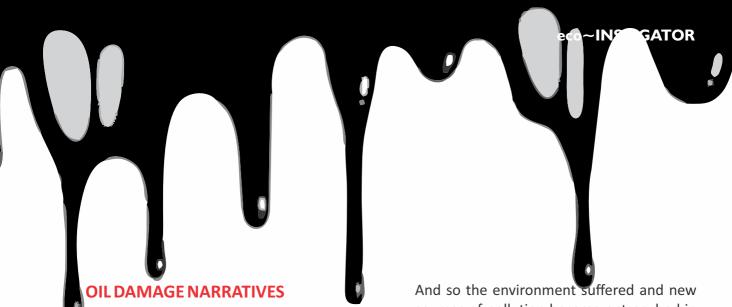
What is their future?

The global component of the Ogoni situation has important implications for those who see it as a local struggle. It also has implications for those whose geographies are outside the limits of Ogoni. Those within must understand that their success charts the path that would lead to the clean-up of other regions. For those looking in from the outside, the stakes are no less because of the interconnectedness of our environment.

The Ogoni Environment is not isolated from the wider Niger Delta environment. Polluted ground water or polluted air does not obey political or traditional or cultural boundaries. When one part is cleaned up there is the urgent necessity to step to the next spot.

Seeing everyplace as discrete and separate would only lead to living in a fool's paradise believing that the land is clean whereas pollution from elsewhere would be doing its deadly job, unseen, unnoticed except in the festival of funerals that would persist.





There was a time when the oil companies operating in the Niger Delta could not boldly claim that the hydrocarbons pollution in the area is caused by local peoples. There was copious evidence of the ill-maintained pipelines and flow stations. Oil spills from equipment failure were the norm. Poorly handled toxic wastes and produced water could not be hidden. And, of course, gas flares continue to stick their sooty fingers in the air as criminal giant cigarettes. The oil companies laboured in vain to shift blames. Reports from communities, the media and environmental justice campaigners continued to pile up evidence of the guilt of the oil companies.

The tide began to change with the rise of violent militancy in the oil fields. Oil infrastructure became targets and the pollution that emanated from the conflicts could neither be hidden nor denied. In fact, the explosions were marked as badges of achievement by the groups that carried out the attacks. Violent militancy achieved aspects of their objectives: gaining attention of the governments that are demonstrably more interested in pipelines and petrodollars than in the peoples and their environment. The militarization of the Niger Delta rather than bring peace is contributory to the insecurity of lives and infrastructure in the region.

And so the environment suffered and new sources of pollution became entrenched in the region. Oil companies found a plank on which to hang blames for the pervading environmental degradation. They also found excuse in their operational locations being "inaccessible" due to insecurity and with that oil spills could go unchecked for any length of time.

The Amnesty Programme in its first and second coming helped to curtail deliberate tampering with oil facilities. Nevertheless, a non-violent but equally deadly version of interferences crept in by way of what is generally called illegal refineries, which we prefer to call bush refineries.

The bush refineries are incredibly polluting. The operators either do not know how toxic the environment in which they work is or they simply do not care. Obviously, the refineries meet the need for petroleum products in zone of perpetual shortages and high costs. Obviously, the operators have economic gains from the enterprise. However, what does it profit a person to make piles of money and not live to enjoy it? What does it benefit a person to accumulate wealth and pollution and sentence entire communities and future generations to death?

Today, when anyone thinks of the pollution of the Niger Delta, decades of incontrovertible pollution by oil companies are now forgotten and all fingers are pointed at the bush refineries.

It is so bad that even when the Port Harcourt refinery continually belches smoke into the atmosphere, fingers are pointed at the bush refineries as the cause of the soot in the atmosphere. The burning, bombing and strafing of bush refineries' drums and barges of refined or unrefined petroleum products by security forces are accepted as signs of operational successes. We tend to think that pollution does not matter. How wrong can we get!

All the oil companies have to do today to ensure the narrative is shifted away from them is to take some journalists on their choppers for pollution tours, picking out the awful patches destroyed by bush refiners. Who would not do that? The fact that industrial scale oil theft has been going on for decades is hardly spoken of these days because of the visible and graphic horrors of the bush refineries.

DEADLY IMPACTS

The Niger Delta is so scarred, so polluted today that what we have on our hand is an environmental emergency, no less. Our air, water and land are all polluted. We plant crops and end up with poisoned harvests. We cast our nets and hurl in poisoned fish, when we see any. We breathe and our nostrils are blackened by soot. Our rivers, streams, creeks and ponds are clearly polluted, yet we drink the waters for lack of choice. All these have deadly impacts.

Oil pollution causes habitat loses, biodiversity degradation, loss of livelihoods and loss of lives.

The heavy metals extracted along with crude oil include cadmium, lead, mercury, arsenic, copper, iron, barium and many others. These have serious risks to human health and wildlife. Health risks include abdominal pains, kidney diseases, nervous problems, bronchitis, fragility of bones,

prostate and lung cancer. They can also cause brain malformations as well as pregnancy and birth complications.

Mercury can rapidly penetrate and accumulate in the food chain. Acute poisoning produces gastroenteritis, inflammation of the gums, vomiting and irritation of the skin with dermatitis which can turn into ulcers.

The flared associated gases cause a cocktail of dangerous health impacts including conjunctivitis, bronchitis, asthma, diarrhea, headaches, confusion, paralysis and others. Of course, we know of the acid rain that occurs when sulphur and nitrous oxides mix with moisture in the atmosphere.

Poorly handled produced water contaminates creeks, rivers, lakes, aquifers and other water sources. This causes the salination of these waters, soil and associated biodiversity. Salts and metals present can include cyanide which can cause immediate death if ingested. Cyanide in low doses can lead to intense headaches, sour taste, and loss of smell and taste, dizziness, vomiting, difficulty in breathing, anxiety, convulsions, loss of consciousness. In chronic intoxication it can produce goitre. Clearly, it is extremely unsafe for untrained and unprotected persons to go near crude oil spills and materials used in the extraction processes. Seeing our people literally swim in crude oil and fire in the bush refineries is absolutely appalling.

CLEANING UP TODAY FOR TOMORROW

The Ogoni clean-up exercise is an intergenerational investment.

For the short time he was alive and in office, Thomas Sankara of Burkina Faso understood that a people that cannot feed themselves are not truly free. He also saw the direct link between environmental sanity and social justice. In analysis of the work of this great son of Africa, Amber Murray states:

> Liberation is incomplete when people hunger daily. Environmental protection and sustainability were therefore crucial to Sankara's strategic thinking. Today, the continent faces serious environmental and climatic challenges that affect food production, access to water and public health. These challenges include water pollution, deforestation, soil erosion, droughts, floods, desertification, insect infestation, and wetland degradation. Environment protection is inextricably linked to social security, poverty eradication, and health.

The clean-up process has many components and many actors. While the Hydrocarbon Pollution Remediation Project (HYPREP) and other levels of government have various roles to play, there are also the contractors, consultants and the community leaders and people. We have individual responsibilities as well as collective responsibilities. The federal government and its agencies have responsibilities and so do the State and Local governments. The clean-up is a complex social engineering project that goes beyond the technicalities that we will soon be seeing with machines, chemicals and diverse equipments. We refer to this exercise as social engineering because apart from remediation of the environment, we have to decolonize our thinking and relationships. All these require some work.

First, we have to understand that the clean-

up is primarily for the sake of our children and future generations. If this fails we could as well look forward to a future in which the Niger Delta will be a museum with no inhabitants because not just the people, but the ecological systems would all be dead. This places a moral burden on all of us, on policy makers, on leaders and on us the people.

Successful social engineering calls for the spirit of sacrifice. The clean-up will produce new skill sets, new jobs and massive employment that would stretch for several years if we get this first steps right. Again, we emphasize that this will require sacrifice. If anyone approaches this sacred task of building an environment for future generations with the aim of profiteering, thievery or self aggrandizement, you can be sure that the entire scheme will ship wreck.

No contractor should cut corners. No individual or company should trigger new pollutions. As my friend, Inemo Semiama, says, "you cannot successfully mop the floor with the tap still running."

WISDOM

This epic social engineering will require the wisdom of our peoples. It will require local knowledge. The youths must embrace the spirit of sacrifice for this is the way to build the moral authority that will be needed to question activities and actions that may occur in the process of the clean-up implementation. These could include the calls for transparency, for ensuring the availability of funds and for insisting that delivered jobs match specifications, expectations and set milestones.



This effort will also demand and require collective wisdom through popular consultations. The Ogonis have the critical advantage that makes this possible because of the existence of the mass organ, Movement for the Survival of Ogoni People (MOSOP) – with its youth, women and other arms. Working organically together, there will be no shortage of diversity of wisdom to tackle even the most intractable problems. Ogoni is a laboratory, a classroom. A careful implementation of this massive social engineering programme will illustrate how the oppressed can escape from being put down by the wielders of privilege and power.

GOING FORWARD

Halting production never halted pollution when the existing impact is left unattended to. Those responsible must continue to bear the responsibility. Those instigating new sources of pollution must halt such acts for the sake of our children, our tomorrow and for the sake of other beings with which we share the planet. We cannot build a livable tomorrow on a polluted today.

Our slogan as the exercise takes roots should be: A Clean Ogoni: Zero Tolerance for Old and New Pollution.

We have a right to claim what belongs to us as ours. However, taking steps that end up killing us or destroying our environment for the sake of expressing our right of ownership is both a false reasoning and a false economic move. When we do things that compound our problems we are simply playing into the hands of the forces of

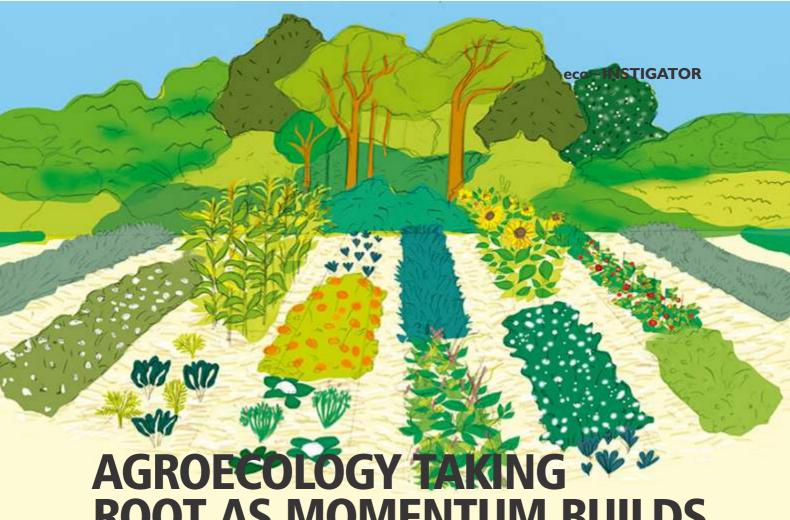
exploitation.

This is our opportunity to reclaim our humanity. It is time to reclaim our dignity. It is time for all of us in the Niger Delta, nay, Nigeria to stand together in solidarity. There is no part of this nation that is not crying for environmental remediation. From the polluted creeks of the Niger Delta to the contaminated lagoons of Lagos and the rivers in the north, to the Sambisa Forest polluted with military armaments and erosion ravaged lands of the east, we are united by our ecological challenges.

The clean-up is a positive alternative vision. It is time for vigilance based on knowledge. Not a time for complacency. Not a time to be silent. It is time to hold government and its agencies, oil companies and our leaders accountable. It is time to demand accountability and responsibility of ourselves.

The clean-up is an opportunity to build and consolidate environmental justice. Together we can leverage the opportunity. It is a path we must walk together and not alone. As the African proverb says, you may go fast by going alone, but you can only go far by going together. We are that intertwined and interconnected.

An address by Nnimmo Bassey, Director, Health of Mother Earth Foundation. At the Stakeholders' Dialogue on Building Trust and Common Ground for a Successful Clean-Up held on 3rd May 2018 at Port Harcourt, Nigeria



AGROECOLOGY TAKING ROOT AS MOMENTUM BUILDS FOR TRANSFORMATION IN AGRICULTURE

s corporations around the world particularly Monsanto, Bayer and the likes continue to lobby to take off the agricultural sector especially in developing countries of the world, there is need to define a vision for the agricultural sector that promotes sustainability, biodiversity and still provide needed traditional nutrients.

Agroecology is a science, practice and movement that use ecological principles for the design and management of sustainable agricultural systems. While agroecology draws on social, biological and agricultural sciences, it integrates these with farmers' knowledge and innovations. On 19-20 April 2018, the Network of Peasant Organizations

and Agricultural Producers in West Africa (ROPPA) and the International Panel of Experts on Sustainable Food Systems (IPESFood) held a meeting in Dakar, Senegal on "Bringing agroecological initiatives to light in West Africa".

ROPPA brings together farmers' organizations and agricultural producers from 13 West African countries. It defends and promotes the role of family farms, which make up the majority of agricultural, forestry and pastoral production in West Africa. "A transformative vision for agriculture that is based on agroecology and that is resilient, equitable and socially just, is gaining ground, including in international policy processes" said Lim Li Ching.



Around 40 participants from farmers' organisations, national agroecology platforms, civil society, regional networks, research institutions and international organisations gathered to discuss how to support sustainable food system reforms in West Africa, by jointly developing a strategy to facilitate the implementation of integrated policies for family farming, agroecological transition and sustainable food systems.

This process aimed to strengthen a pan-West African alliance, enhance relationships between different actors, and build bridges between different scales of actions. From the meeting, it was clear that the transition to agroecology cannot happen without the small-scale food producers and family farmers who are the bedrock of farming in West Africa. While alternative agroecological pathways exist and agroecology is particularly promising in the West African context, given its emphasis on local and traditional knowledge, and its low costs and resource efficiency, there are, however, several major obstacles that still need to be confronted.

Steps to overcome these obstacles were identified and an action plan drawn up around the following areas: improving agricultural governance and financing for agroecology, enhancing participatory research and evidence building, further strengthening the agroecology movement and mobilizing civil society, strengthening

farmer-to- farmer training and peasant learning systems, and developing local food systems as well as local and solidarity partnerships so that producers are able to access existing and alternative markets.

The meeting is part of a process of research and reflection on the future of agricultural development in West Africa, launched by IPES-Food in 2017, and following the publication of its influential report, "From uniformity to diversity: A paradigm shift from industrial agriculture to diversified agroecological systems". In that report, the panel of experts called for a major transformation in agriculture towards agroecology and exposed the "lock-ins" that act to keep the structures and logics of the current unsustainable industrial agriculture model in place, while simultaneously locking out the reforms that are needed.

The meeting in Dakar followed closely on the heels of the Second International Symposium on Agroecology, held at the headquarters of the Food and Agriculture Organization of the United Nations (FAO) in Rome in early April. The Symposium brought together more than 700 policymakers, agroecology practitioners, academics, and representatives from government, civil society, the private sector and UN agencies to discuss key elements and actions to support scaling up agroecology.



Building on the First International Symposium on Agroecology for Food Security and Nutrition, held in Rome in September 2014, and the seven regional multi-stakeholder seminars on agroecology, organised by FAO between June 2015 and November 2017, participants explored solutions, experiences and practices, which have come mostly from the grassroots and have been shared horizontally through farmer-to-farmer networks.

This has taken place despite the resource, policy and research environment that has so far largely favoured industrial agriculture. The FAO, long seen by many as promoting the Green Revolution - with its input intensiveness and monocultures with accompanying adverse environmental and health impacts alongside high yields - appears to have had a change of heart.

At the Symposium, the message was clear; the Director-General of the FAO, Jose Graziano da Silva, asserted that such "focus on increasing production at any cost is not sufficient to eradicate hunger".

"We need to promote a transformative change in the way that we produce and consume food. We need to put forward sustainable food systems that offer healthy and nutritious food, and also preserve the environment. Agroecology can offer several contributions to this process," Graziano da Silva said.

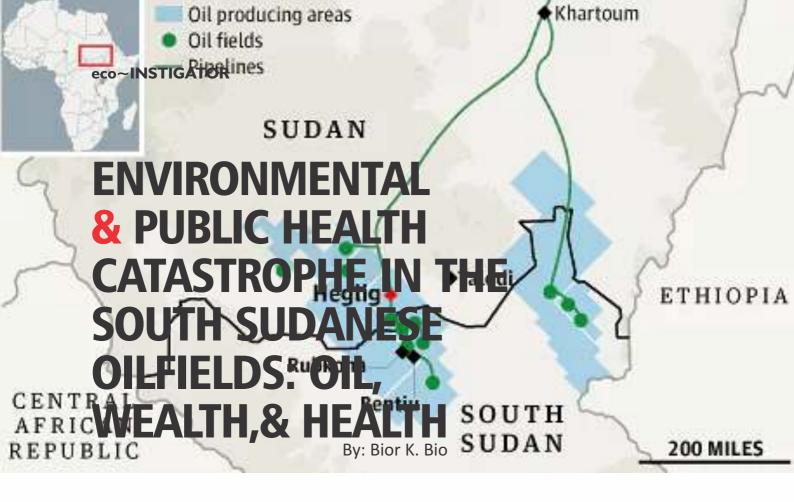
According to the FAO, agroecology can safeguard natural resources and

biodiversity, as well as promote adaptation to and mitigation of climate change. It can also improve the resilience of family farmers, especially in developing countries where hunger is concentrated.

It can contribute to the production and consumption of healthy and nutritious food, and boost local economies and markets. These multiple benefits make agroecology an important pathway for meeting the Sustainable Development Goals and for addressing the interlinked challenges that face agriculture today.

organisations can provide an enabling environment to allow agroecology to thrive and to ensure the participation of the small-scale producers who practice and innovate agroecology. At the same time, there must be concerted effort to remove the incentives and address the structures that keep unsustainable industrial agriculture in place. Whether in West Africa or elsewhere, these efforts are urgently needed, in order to bring about a more just and sustainable future for a griculture; one that is based on agroecology.

C u l l e d f r o m : https://www.twn.my/title2/susagri/2018 /sa694.htm



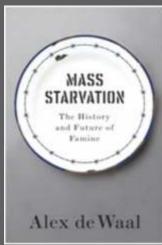
Introduction

ike the history of the country itself, the history of oil exploration in South Sudan is littered with contradictions. The first international oil giant to venture into the Sudan in search of oil was an American oil company called Chevron in 1974, just barely two years after the conclusion of the Sudan's first civil war. After seven years of protracted warfare, which pitted the largely Christian and animist South against an Arab Islamic north, the agreement which was signed in Addis Ababa, Ethiopia, in 1972 granted Southern Sudan a limited self-rule. After ending the war, the Sudanese government began to exploit its natural resources to resuscitate the ailing economy.

The major discoveries of oil in the Sudan came about when Chevron discovered viable oil reserves in what is now block one (see oil concession map). In 1982, Chevron made two even larger discoveries: the Heglig and Unity oil fields which today are

some of the most productive oilfields in the Sudan and South Sudan respectively. During the next six years, Chevron dug eighty seven (87) more oil wells at an estimated cost of \$880 million. Soon after, the political crisis in the Sudan affected their operations, and they ended up having nothing to show for their mammoth investment; they left the country bitter and disgruntled.

Initially, Chevron demanded, in addition to the Sudan's Armed Force (SAF) units which were robustly deployed to the south, an Oilfield Protection Force. Unhappy with the security arrangements put forth, Chevron had, by 1988, dismantled its operations in Bentiu and what was then known as the "Unity province." After Chevron's attempts to extract oil in the Sudan were frustrated by the escalating civil war between the north and the South, the then President of the Sudan, Jafar Nimeiri, attempted to redraw the boundary of Upper Nile province so that the oil fields discovered by Chevron would be located in the northern territory.

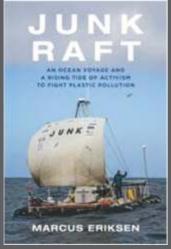


Mass Starvation: The History and Future of Famine by: Alex de Waal

The world almost conquered famine. Until the 1980s, this scourge killed ten million people every decade, but by early 2000s mass starvation had all but disappeared. Today, famines are resurgent, driven by war, blockade, hostility to humanitarian principles and a volatile global economy.

In Mass Starvation, world-renowned expert on humanitarian crisis and response Alex de Waal provides an authoritative history of modern famines: their causes, dimensions and why they ended. He analyses starvation as a crime, and breaks new ground in examining forced starvation as an instrument of genocide and war. Refuting the enduring but erroneous view that attributes famine to overpopulation and natural disaster, he shows how political decision or political failing is an essential element in every famine, while the spread of democracy and human rights, and the ending of wars, were major factors in the near-ending of this devastating phenomenon.

Hard-hitting and deeply informed, Mass Starvation explains why manmade famine and the political decisions that could end it for good must once again become a top priority for the international community.



JUNK RAFT: AN OCEAN VOYAGE AND A RISING TIDE OF ACTIVISM TO FIGHT PLASTIC POLLUTION. BY MARCUS ERIKSEN

A naturalist and environmental activist chronicles his 2008 ocean journey to draw attention to the blight of plastic waste in the world's oceans.

Accompanied by a fellow activist and sailor, Eriksen (My River Home: A Journey from the Gulf War to the Gulf of Mexico, 2007) sailed from Los Angeles to Hawaii on the Junk, "a raft made from plastic bottles, with thirty old sailboat masts for a deck and a Cessna 310 airplane as a cabin." The author sought to attract attention to this growing problem by imitating the path taken by trash routinely dumped into the ocean, where it is "shredded and pulverized" into microplastics. Eaten by unwitting birds and fish who mistake it for nourishment, it enters the food chain with disastrous consequences, which the author describes graphically. Examples of these hazards include the microbeads of plastic found in toothpaste and cosmetic creams and the plastic foam from insulated cups and coolers. To the extent that this problem is recognized, the plastics industry, and many conservative legislators, seeks to lay the blame on consumers who litter, refusing to take any responsibility. The book, however, is not simply a polemic.

This didn't sit well with the Sudan People's Liberation Movement/Army (SPLM/A) under the able leadership of Dr. John Garang. As a result, the SPLM/A intensified the war to thwart the North's attempt to annex South Sudan's oilfields to its territory.

Forceful displacement of the civilians and careless oil exploration in Southern Sudan

As the war intensified in the early 1990s between the Sudan People's Liberation Movement/Army (SPLM/A) and the Sudanese government of the National Islamic Front (NIF), the military junta of the Sudan also intensified its search for petrodollars to fund the war which was becoming religious and expensive. As a result, the Sudanese government undertook intense military expeditions into the South, ostensibly to drive out the local populations from most of the oil-rich regions of Southern Sudan to create a space for oil exploration to commence.

Using superior weaponry than the SPLM/A, and with the support of the South Sudanese ethnic militias who leagued up with them, the National Islamic Front (INF) government succeeded in driving the people out of the oil-rich areas of Southern Sudan and began to exploit the oil earnestly. Because the oil companies who were given the oil concessions at the time viewed the land as a "no-man's land," they started mining the oil without instituting measures to protect the environment and the people who were still living there under constant aerial

bombardments and punitive military expeditions. This "carefree" exploitation of oil in the Southern Sudan region resulted in massive pollution of the areas in which the oil was being extracted.

Poison and mystery: The two chief South Sudanese inheritances from the Sudanese oil industry

During the years leading up to South Sudan's long awaited independence, which eventually materialized in 2011, no appreciable attempt was ever made either by the government of the autonomous Southern Sudan (GOSS), or by the Government of National Unity (GoNU), to address the issue of oil pollution in the South Sudanese oilfields. Despite the numerous complaints by the impacted communities and the NGOs working in the oil-rich areas about the unfolding environmental and public health degradation due to careless oil exploration activities, the government of South Sudan, which took over the sole responsibility of all the oilfields within the boundaries of South Sudan after the country gained its independence, and the petroleum operating companies (POCs) continued to downplay the issue; no appreciable action has been taken so far to remedy the bourgeoning oil pollution problem and its associated environmental and public health impacts.



Although a Petroleum Act (2012) of South Sudan has been enacted ostensibly to regulate the activities of the oil extracting companies in South Sudan, the law largely remains unenforced, and the oil companies continue to operate in what seems to be a legal vacuum.

Rapidly accelerating Environmental and Public Health Catastrophe

Without any measured pressure from the government, the nascent Civil Society Organizations (CSOs), and the general public, which has essentially been kept in the dark about the unfolding environmental and public catastrophe in the oil-rich regions of South Sudan, the oil companies continue to do business as usual. While the people and the environment writhe agonizingly under the enormous weight of man-made environmental and public health catastrophe, the wealth in form of crude oil continues to flow to the international markets where it fetches an enormous amount of petrodollars that has been lining the pockets of politically well-connected elites.

Although the oil companies like to pretend that nothing terrible is happening, reports from the oilfields with respect to the environmental state of affairs are disheartening. For example, in Thar Jath oilfields, a research undertaken by a German NGO, "Sign of Hope (SoH)", shows that the groundwater aquifers in the area have been terribly polluted by heavy metals and inorganic impurities that aren't compatible with human physiology. The data shows that the groundwater in the area is almost five (5) times salty than normal.

Also, the level of lead, a heavy metal of public health concern, was found to be 58-59 folds more than what is recommended by the World Health Organization (WHO) in

drinking water. Because no comparable high water salinity has been observed in the other geographically similar areas of South Sudan that are not experiencing oil exploration activities, it is scientifically reasonable to conclude that the abnormal water salinity in Thar Jath area is attributable to oil pollutants in the environment.

In Panriang oilfields, oil pollution has been reported to be negatively impacting the people and animals in the area. For instance, a report compiled by the local authorities in the area in 2015 shows that the member of women giving birth to deformed babies is on the rise, cases of infertility among men and women are also skyrocketing, and livestock and other wild animals are mysteriously dying in unprecedented numbers. In Panriang oilfields, it has been documented that when the animals (cows, goats, and wildlife) graze in a crude-soaked pastures and fields, they instantly died, which suggests that the crude is out-rightly poisoning the animals. Also, a survey undertaken by Moro et al of the University of Juba in 2015 shows that oil exploration in Paloch oil-rich area is negatively impacting the local population as it has torn up agricultural lands and polluted locals streams and rivers.

It was also found that villagers whose ancestral villages have been swallowed by oil extraction activities were moving away from their villages, only to find themselves stranded in the territories of hostile communities. The survey also reveals that the local population's relationship with the oil companies, who keep paying lips services to the principle of "Corporate Social Responsibility (CSR)", is beginning to get sour. While the oil companies continue to be shielded by the government's indifference to the plight of the citizens who are being impacted, the land and the environment continue to be assaulted and degraded.

Oil pollutants are ubiquitous in the oil-rich environs

A field visit to the various South Sudanese oilfields (Paloch, Adar, and Panriang) undertaken by the Nile Institute of Environmental Health (NIEH) researchers in 2015 and 2016 found that environmental contaminants such as Produced Water (PW), spilled crude, gas flares, and abandoned drilling chemicals were ubiquitous in the environment and that no appreciable effort was being exerted by the oil companies operating in the oilfields to clean-up the mess. After the Dec. 15th, 2013 crisis, which triggered the ongoing civil war in South Sudan, some of the oil installations were left unattended. These oil installations are vulnerable to vandalism and wildfires. thus threatening the environment, the people, and the wildlife in the areas in which they have been abandoned.

Sadly, the local villagers aren't aware of the danger lurking in their environment. For instance, while the NIEH team was recording the environmental abuses in Panriang oilfield, a local woman was pictured fletching water for household use from a Produced Water (PW) pond, obviously oblivious to the fact that Produced Water (PW) is an amalgam of dangerous petrochemicals that aren't compatible with human physiology.

In Paloch oilfields, a similar behavior was recorded when a local villager was seen taking his cows for drinking in the nearby Produced Water (PW) ponds which hadn't been fenced off properly by the oil company operating in the area.

In Adar oilfield, Gumry, abandoned oil drilling chemicals yards dotted the landscape. Given the flat topography of this area, when it floods as it habitually does,

these chemicals could be carried far and wide, thus widening the scale of environmental pollution and degradation caused by these abandoned chemicals. There were reports that the locals would raid the drilling chemicals yards to steal containers in which chemicals were once contained for household use, which further exposes them to the oil drilling chemicals.

Recommendations

To remedy the oil pollution problem in South Sudan, a number of measures, both long terms and short terms, ought to be expeditiously undertaken before the situation spirals out of control. As short term measures;

- (1) The oil companies in conjunction with the government and the local communities who have been impacted by the oil pollution should urgently conduct awareness campaigns in the oil-rich areas to sensitize the local populations on the danger of oil contaminants in the environment. If this is properly done, the locals' exposure to environmental contaminates could be reduced, and the long terms impacts of oil pollutants on the health of the people living in the oilfields could be drastically reduced.
- (2) The Produced Water (PW) ponds which were poorly constructed need to be decommissioned so that the better ones could be constructed.
- (3) All the drilling chemicals that have been left decomposing in the environment need to be removed and destroyed.
- (4) All the Produced Water (PW) ponds need to be fenced off so that the locals' livestock won't have access to them.
 In the long terms;

- (5) There is a need for a complete Environmental and Social Audit (ESA) in the South Sudanese oilfields ostensibly to know the extent of environmental damage that has been caused by oil exploration dating back to the times when South Sudan and the Sudan were one country.
- (6) Environmental and biological samplings need to be undertaken so that the extent of environmental pollution and the exposure of the local populations to oil pollutants could be quantified.

These will be serious undertakings which will have to involve all the stakeholders to bring them to fruition. The government, the oil companies, Civil Society Organizations (CSOs), and the local communities ought to work cooperatively to address the issue of oil pollution in the South Sudanese oilfields. Instead of trading blames and accusations, these stakeholders ought to bring their resources together to address this issue which acutely threatens the wellbeing of multitudes in a manner that is unprecedented.

As Peter Singer would have it, "If it is in our power to prevent something bad from happening, without thereby sacrificing anything of comparable moral importance,

we ought, morally, to do it." It is obvious that something terrible is happening in our oilfields, and it is in our power to stop it. We are therefore morally obligated to see to it that the lives of our people and the environment in the oil-rich areas of South Sudan are protected. By doing so, we aren't losing anything of comparable moral importance.

We have no reason to procrastinate or to play political hardballs with the lives of our citizens and our environment.

Bior K. Bior holds a PhD in cells and Molecular Biology from the University of Vermont (USA). He is the founder and Executive Director of Nile Institute of Environmental Health (NIEH), an environmental and public health research think-tank operating in Juba, South Sudan. Dr. Bior's research focuses on understanding the impacts of oil pollution on the local communities, and the environment as a whole in the South Sudanese oilfields. He can be reached at: adhongdhuoor2016@gmail.com





he release of GM crops in commercial quantities into the Nigerian market has since beclouded the minds of the "supposed" regulators especially in the face of the unholy conjugation between them and Monsanto and the likes who are promoting their business over our collective wish and desire to our natural foods and not laboratory foods which will have negative effects on all the components of food security and ultimately our health.

While Nigerians face uncertainties over food security due to incessant herders-farmers clashes, another threat is dawning on the nation without much notice. The fact that President Muhammadu Buhari just inaugurated a Food Security Council underscores the centrality of food security to the country. However, without food safety there cannot be food security.

On the 22nd of March, 2018, the country coordinator for Open Forum on Agricultural Biotechnology (OFAB) and National Biotechnology Development Agency (NABDA) chieftain, Dr Rose Gidado, stated in an interview with newsmen in Abuja that "before the end of 2018, Bt Cowpea and Bt Cotton as biotechnology products in Nigeria would be in market."

Health of Mother Earth Foundation (HOMEF) raised concerns with regard to this announcement and stated that these products are soon to be unleashed on an unsuspecting Nigerian public. According to the organisation, there is no guarantee about the environmental and health safety of the beans and cotton to be released by the end of 2018.

Nnimmo Bassey, the Director of HOMEF stressed that there are serious challenges Genetically Modified Organisms pose in the areas of toxicology, allergy and immune dysfunction and genetic disorders which make it very important that Nigeria adopts the precautionary principle-which warns that strict measures should be applied where there are threats of serious or irreversible damage and lack of full scientific certainty

The OFAB/NABDA officer stated that "the pesticide tolerant cowpea will allow for a reduced use of pesticide". To this, Nnimmo Bassey, responded and stated this "it is well known that pests have developed resistance to the Bt toxins and this resistance leads to an increased use of toxic chemicals which increases the damage to the environment".

According to Mariann Orovwuje, the African Food Sovereignty Alliance (AFSA) chairperson, "Bt crops and other GM foods will not help Nigeria's economy as the supporters of the technology allege, rather, there will be forced dependence on corporate bodies for seeds. Farmers will have no right to reuse their seeds and agricultural production will be left in the hands of large scale industrial investors."

The National Food, Drug Administration and Control (NAFDAC) in June 2017 revealed that 24 export products from Nigeria were rejected by the European Union (EU) in the year 2016 for failing to meet standards. HOMEF warns that the market for genetically modified products from Nigeria is narrowing instead of expanding, with the strict requirement of the EU.

HOMEF believes that the way to improve economic situation for farmers is to invest in organic agriculture, provide farmers with extension services, needed infrastructure, good roads and access to land and loans. Support for farmers should include

investment in research and exploration of agroecology approach to the problems of pests and diseases.

The organisation stated that it is good to learn from others who have taken caution against GMOs. The Ugandan President, Yoweri Museveni had declined to sign into law a Biosafety Bill passed by the Ugandan Parliament in October 2017 because of issues that included liability and redress and concerns on conservation of indigenous crops and agricultural biodiversity.

Joyce Ebebeinwe, HOMEF's Biosafety Officer , in a tweet chat asked the Director of the National Biosafety Management Agency (NBMA) how consumers will be able to differentiate the akara or moi-moi made from GM beans from those made from non GM beans when purchasing from road side vendors. In response, NBMA boss stated that the local vendors would erect signposts announcing that they are selling GM products. That would be laughable if not for the fact that it is an extremely tragic notion. It is quite unimaginable that one would think that local vendors in Nigeria would willingly put up a sign stating that their food products are made from genetically modified crops, knowing that consumers would rather consume and non GM food product.

HOMEF insisted that the promise to have GMOs labelled in Nigeria to ensure that the public have a choice on whether or not to eat such crops will not work mainly due to our socio-cultural and economic realities.

Furthermore, the recent statement by the NBMA DG, Dr Rufus Ebegba, at a media conference in Abuja on the 5th of April shows clearly how flawed our biosafety regulatory system is. According to reports, "Dr. Rufus Ebegba, has given importers of genetically modified (GM) seeds a seven-day ultimatum to formalise their dealings or risk being shut down".

HOMEF expressed that this statement is in direct contrast to the provisions of the law. Section 23 (1) of the NBMA Act 2015 states:

"Any person, institution or body who wishes to import, export, transit or otherwise carry out a contained field trial, multi-locational trial or commercial release of a genetically modified organism shall apply to the Director General of the Agency not less than 270 days to the date of import, export, transit or the commencement of such activity". According to HOMEF, the statement by the NBMA DG may be construed to mean that dealers on GM products in Nigeria will be given permits after they had imported GMO seeds without passing through due approval processes. HOMEF totally objects to any sort of formalisation of illegal importation of GMOs into the country.

A short notice to import these crops does not allow for risk assessments or safety assurances and regrettably, this may have been the basis on which the agency granted WACOT Ltd permits to import several varieties of GM maize over a period of three years — after the company was alleged to have illegally brought in the crop in September 2017 and had been ordered to repatriate the grains.

The Ecological Think Tank calls on the Nigerian government to look critically at the activities of the Nigerian Biosafety Regulatory Agency and the subject of genetically modified foods in the country. While HOMEF commends the action of the federal government in establishing the food Security Council, the group insists that it is pertinent that action is taken to ensure that our foods are indeed safe.



enetically Modified Organisms (GMOs) are organisms (plant, animal or microorganism) whose genetic material has been altered in a way that does not occur naturally.

This process which is called genetic engineering (or modern biotechnology) allows the manipulation of seeds at the cellular level whereby genes from one type of organism (e.g. an animal) can be introduced into another sometimes unrelated organism (e.g. a plant) in the bid to produce some desirable traits.

GMOs in this article refer to food crops/seeds produced using genetic engineering principles.



Who Benefits from Genetically Modified (GM) Crops?

Since the introduction of genetically modified crops over twenty years ago, the biotech industry has fought intensely to ensure the spread of these crops around the world but this effort has not yielded expected results because the crops have failed to provide the benefits touted by their producers. The GMO industry promoted hype has largely failed to convince both the farmers and consumers.

Monsanto (a leading producer of genetically modified seeds and herbicides) and its counterparts claim that GM crops are safe, will reduce pesticide use, improve yields, help with climate stress and would eradicate hunger in developing countries. But in nearly 25 years since the use of GMOs,

studies have found that they have led to higher pesticide use, increased rate of food related diseases, no improvement in yield or water consumption and no drought resistance. The result has largely been plants which are engineered to withstand the use of highly toxic herbicides or function as living pesticide factories.

There have been dramatic GM crop failures in the cotton-growing regions of India, where over 300,000 farmers have committed suicide. From reports, the farmers committed suicide after they became indebted as yields did not match their investment in procuring seeds and chemical inputs.

Burkina Faso has phased out the cultivation of GM cotton after the massive disaster its farmers and seed companies experienced.

In South Africa, GM corn (a staple crop) has been grown and used for food for over 10 years but the country is still food insecure. Over 46% of South African households are said to be experiencing hunger with one in five children stunted, and more 50% of women obese.

Modern biotechnology has not addressed the main agricultural problems and challenges facing farmers in most countries of the world and has not proven to be superior to the use of conventional crops.

Seeds of neo-colonialism

The idea behind the push of genetically modified agricultural products to Africa is not to eliminate hunger but to make profit off the agricultural challenges that the continent is faced with. The objective is the corporate control of Africa's food systems.

Majority of GM crops are engineered to withstand the application of proprietary herbicides sold by the same companies that market the GM seeds. This has little relevance to small scale farmers who often cannot afford to buy these chemicals but constitute the bulk of the farming population.

Also, the crops which are targeted for genetic engineering are those which can be patented, leaving farmers with no right to use, exchange or save these seeds.

The pro-GMO lobby attempts to weaken African national biosafety laws, to make easy access for their controversial and dangerous products. They are urging African countries to double efforts to fast-track the creation of enabling environments for biotechnology while they ensure that no responsibility comes to them in terms of liability and redress. Labelling is fought against so that people do not know if their food is genetically modified or not.

Africa can feed herself

It is high time that governments in Africa took a stand against the foreign corporate influence on our food systems. It is time to define our own healthy, sustainable and culturally sensitive food systems.

Nnimmo Bassey, Director, Health of Mother Earth Foundation (HOMEF) at a Stakeholders Workshop on GMOs in June 2017 precisely described a food system based on genetic engineering as unjust, unsafe and unsustainable. Unjust because genetically modified products are often introduced surreptitiously or illegally without adequate information to the public; Unsafe because they are unnatural and the very process of genetic engineering leaves several health and environmental complications (often, results from genetic manipulation vary vastly from intended outcomes) and Unsustainable because GMOs operate as monocultures and would eventually subvert African food systems, disrupt local economies, build dependency on toxic agrochemicals and on monopolist seed companies.

Science undeniably has proffered solutions to many of life's challenges but still, it must be harnessed with caution. Science must be in the public's interest.

We need to develop and enhance scientific approaches that are innovative; that protects and replenishes natural ecosystems while increasing productivity; that harnesses traditional knowledge, respects cultural preferences and strengthens local economic cycles.

Agroecology is a holistic approach to food security.

