



FEDERAL MINISTRY OF ENVIRONMENT  
HYDROCARBON POLLUTION REMEDIATION PROJECT  
HYPREP: Remediating the Environment and Restoring Livelihoods

# HYPREP HERALD

MAY 2022 EDITION VOL.1 No.2

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HYPREP  
HERALD  
NOT  
TO BE  
SOLD

# FROM THE PC'S DESK



**DR. FERDINAND DUMBARI GIADOM**  
**Project Coordinator**

The provision of potable water for impacted communities in Ogoniland is a key recommendation in the United Nations Environment Programme (UNEP) on Ogoniland. On assumption of office as the Project Coordinator of the Hydrocarbon Pollution Remediation Project (HYPREP), I

inherited some water projects that currently under construction and are at various stages of completion. Were awarded by my predecessors. One of the companies has even completed its work and water is now being supplied to Alesa in Eleme and the adjoining communities, and further works on the reticulation is ongoing. In the last couple of weeks my team and I have gone round the water stations across Ogoniland to inspect the facilities being installed.

During our interaction with the contractors, we noted some areas that need intervention, prominent among them is the issue of sustainability. Ogoni has over the years been provided with several water schemes by different sponsors – Government and its agencies, Development partners, International Oil Companies and even philanthropic individuals. The joy of the communities has always been short lived as soon after the commissioning of those facilities for public use, the taps had run dry due to no well-thought-out plan for their maintenance and sustenance.

In our estimation, the sustainability plan for the water projects is key to the overall success and delivery of water

to our people. We are currently working out alternative and sustainable energy sources that will not only power the water projects, the proposed Centre of Excellence for Environmental Restoration; but also, will catalyze economic development in Ogoni.

It will not make good economic sense to spend a fortune on setting up water facilities across Ogoniland and for a mere reason of lack of fuel, the stations would be left to rot away as was the case in the past, not serving their purpose – provision of potable water for the populace. In essence, the cost of connecting Ogoniland to the National Grid and setting up alternative power sources is lesser than constructing water facilities that will not produce water in the long run.

As we publish this second edition of the HYPREP Herald, we believe and firmly too that a sustainable power supply to Ogoniland as we are now working on will boost our livelihood training programme and in turn catalyze development of small-scale enterprises, sustain water supply to the communities, power our Centre of Excellence for Environmental Restoration and generally raise the standards of living and reduce crime rate. This is the promise among others that we are here to keep.

## **Dr. Ferdinand Dumbari Giadom** **Project Coordinator, HYPREP**



**Dr. Giadom takes Hon. Minister on facility inspection of water station at B-Dere**

# In this Issue

In the maiden issue of the HYPREP Herald launched on April 1, 2022, we had promised to bring you timely and relevant information about the activities and programmes of the project and passing same across in an easy-to-read language that sustains your interest in the subject of environmental remediation. In keeping with that pledge of informing you on developments in and around the project, we have gathered for you latest happenings between the launch and now beginning with the appointment of a substantive Minister of Environment, Mohammed Abdullahi, the field visit of the Project Coordinator, Dr. Ferdinand Giadom to water project sites, the timely and amicable resolution of a land dispute between the two neighbouring communities of Kpitem and Biara and the livelihood data capturing exercise for Ogoni youths and women.

We had also promised in the maiden edition that we will be on the lookout for a more presentable and stable format for the newsletter and this second issue adorns a more formal appearance than the first.

## POETRY CORNER

### SOOTY STATE

By: Kpoobari Nafo

A state and its skies in captivity  
As day now wears the stained garment of night  
Houses painted in shade of naivety  
Lungs of locals phlegm from sooty ignite  
Rising high like smoke out of Gomorrah  
Non-smokers suffer the fate of smokers  
Clouds in teary drops on dying flora  
In funeral of spent streams and rivers  
Murder, security men plead guilty  
Of money from heap of oily baked heath  
Guns laid down in defense of vanity  
For refineries that pollute beneath.  
God forbid, children in blue skies' search, roam  
To other states, like soldiers on march to Rome.

To whet your appetite for literary appreciation we have fetched for you an iambic pentameter sonnet on one of the most burning environmental issues in Nigeria's Niger Delta today - the menace of soot arising from illegal refining of crude oil.

We urge you to savour our package and do well to offer any useful suggestion that will help us to serve you better.

### Editorial Crew Members

Dr. Ferdinand Giadom	Publisher-in-Chief
Kpoobari Nafo	Editor
Jimmy Okoroh	Online Editor
Enuolare Mba-Nwigoh	Head Reportorial
Faith Deekor	Reporter
Imeh Ofem	Reporter
Tombari Naadue	Camera
Mike Cowing	Technical Advisor
Apoorva Bose	Technical Advisor
Sweet Okundaye	Legal Advisor



Dr. Giadom Explains Remediation processes to the Hon. Minister while Ajuri Ngelale listens



From Left: 1. Eleme Chairman, Obarilomate Ollor, 2. Gokana Chairman, Confidence Deko, 3. HYPREP PC Dr. Giadom, 4. SSA to President Buhari, Ajuri Ngelale, 5. Hon Minister, Barr. Abdullahi. 6. Khana Chairman, Dr. Bariere Thomas, 7. Tai Chairman, Friday Mbakpone

# FG TO CONNECT OGONI TO NATIONAL GRID

## LGA Chairmen Promise Support for Project

The provision of potable water and creation of alternative livelihood for oil impacted communities in Ogoniland which are key deliverables recommended by the United Nations Environment Programme being implemented by the Hydrocarbon Pollution Remediation Project (HYPREP) will get a lifeline that will enhance their sustainability.

This is so as the Federal Government has promised an expansion on the mandate of HYPREP to include the provision of electricity for Ogoni communities. Though there is public power supply to Ogoniland from Port Harcourt at the present, the Federal Government says it will link Ogoniland directly to the national grid.

'So, apart from the remediation exercise that is being executed by HYPREP, there is also the water project that we are working on. We realized that for the water project to become sustainable that there must be an enduring power supply to the area. Therefore, the Federal Government is expanding the objectives of the project mandate of HYPREP, to ensure that the entire Ogoniland is linked to the national grid.'

The Minister of Environment, Barrister Mohammed Hassan Abdullahi said this at a townhall meeting with stakeholders as part of his familiarization visit to Ogoniland.

The Honourable Minister said he came on the directives of President Muhammadu Buhari to identify ways in which the implementation of the UNEP report can be accelerated being a priority project of the administration.

Barr. Abdullahi maintained that in line with the UNEP report on remediation and provision of potable water, the Federal Government will roll out Livelihood programmes that will impact positively on the people of Ogoni, which is why the Federal Government is expanding on the mandate of HYPREP to ensure that there is steady power for the sustainability of the services being provided by the project.

The Honourable Minister also disclosed that approvals have been granted for the implementation of shorelines remediation, being the clean-up of the mangrove.

Chairman, Ogoni Supreme Council of Traditional Rulers and Gbenemene of Tai Kingdom, His Royal Majesty, King Godwin Ndonake Kenneth Gininwa in his remarks stated that there have been visible changes in HYPREP since the assumption of Dr. Ferdinand Giadom as Project Coordinator and appealed that the bureaucratic bottlenecks on the project be lifted to fast-track the clean-up.

'HYPREP has not done badly despite the very slow pace of the remediation project. We are happy with the plans to connect our communities to the national grid because electricity is life, and I have no doubt that you (minister) will do things differently.'

In his remarks, the Executive Chairman of Tai LGA, Sir Mbakpone Okpe stated that the sustainability plan of the water project should be prioritized as this will bring

development to the Ogoni communities. His Eleme, Gokana and Khana counterparts; Honourable Obarilomate Ollor, Honourable Confidence Deko and Dr Thomas Bariere respectively promised the support of the Local Councils in Ogoni for the Federal Government's plan to link the area directly to the national grid.

At the Palace of Gberemene Gokana, His Royal Majesty, King Amb. Festus Babari Paago Bagia JP, who was represented by the Chairman, Gberesaako Council of Traditional Rulers, Chief Michael Tekuru enjoined the Honourable Minister to make the clean-up a cooperative clean-up and as well engage the people of Ogoni in managerial positions in HYPREP. In the same vein, Chief Hon. Kpoobari Badom encouraged the Project Coordinator of HYPREP to always consult with the people.

Senior Special Adviser to President Buhari on public affairs, Mr. Ajuri Ngelale said the President is committed to delivering on the recommendations of the UNEP report as well as the Bodo/Bonny road that passes through Ogoni. He acknowledged the commitment of the Vice President, Prof. Yemi Osinbajo, in ensuring that the people of the Niger Delta receive the dividends of democracy.

The King of Babbe, His Royal Majesty, Monday Noryaa who was represented by HRH Suanu Baridam urged the Honourable Minister to consider Ogoni people first for job opportunities that come out of HYPREP.

His Royal Majesty, the Oneh-eh Eleme XI, King Philip Obele charged the Hon. Minister to leave his footprints in the sands of time. "You have come, you have seen, conquer for us", he said.

Former President of the Movement for the Survival of the Ogoni People (MOSOP) and pioneer member of HYPREP Governing Council, Legborsi Pyagbara made a case for the inclusion of women in the livelihood programme of HYPREP and the need for more Ogonis to occupy leadership position on the project.

In his intervention, Legborsi Nyamabana, President of the Ogoni Youth Federation appreciated the Honourable Minister for showing commitment to the Ogoni and appealed that opportunity be given to Ogoni youths to participate in the clean-up.

The Honourable Minister of Environment, Barr. Mohammed Abdullahi had visited the HYPREP Project Coordination Office in Port Harcourt, where he met with Management and staff of the Project.

The Project Coordinator of HYPREP Dr. Ferdinand Giadom who introduced the new Minister to staff of HYPREP told them that the Honourable Minister has promised to implement the recommendations of the UNEP report by the principles, spirit and tenet of the report and appealed to the Honourable Minister to consider an improvement in the welfare of staff.

The Project Coordinator stated that his administration is trying to situate the Project not to operate within strict Civil Service rules in order to deliver on the objectives of the Project. He informed that members of staff resume to office one hour earlier and therefore appealed to the Honourable Minister to prioritize the welfare of staff.

Barr. Abdullahi appreciated staff for the warm reception and urged them to be diligent in the delivery of their task.

On the Honourable Ministers' entourage were members of the Governing Council of HYPREP, Board of Trustees, Central Representatives Advisory Committee (CRAC), and Management Staff of HYPREP.



Environment Minister Barr. Mohammed Abdullahi at the Palace of Gbenemene Tai Kingdom



Environment Minister Barr. Mohammed Abdullahi plays host to MD, SPDC, Osagie Okunbor

# PROJECT NEWS

## HYPREP GETS NEW SUPERVISING MINISTER

-Minister Hosts MD, SPDC

-Promises Transparent Clean-up

The Governing Council of the Hydrocarbon Pollution Remediation Project (HYPREP) now has a new Chairman. He is the substantive Minister of Environment, Mohammed H. Abdullahi.

The Governing Council is the policy making organ that provides the general policy guidelines relating to the functions of HYPREP.

Until his appointment, Mohammed H. Abdullahi was the Minister of State for Science, Technology and Innovation. His redeployment and subsequent appointment as the Honourable Minister of Environment was approved by the President of the Federal Republic of Nigeria, His Excellency Muhammadu Buhari and announced in a release by the Secretary to the Government of the Federation

(SGF), Mr. Boss Mustapha and took effect from 6th April 2022.

“The President hopes that he would bring his wealth of experience to bear on his new assignment for the growth of the country,” the statement said.

The Honourable Minister of State for Environment, Chief Sharon Ikeazor had presided over the Ministry upon the redeployment of the former Minister of Environment, Dr. Mahmoud Abubakar who is now the Honourable Minister of Agriculture.

Chief Ikeazor who was the former Executive Secretary of the Pension Transitional Arrangement Directorate (PTAD) before her ministerial appointment in August 2019, has now returned to her substantive office of Honourable Minister of State, Environment.

From 2016 when the Hydrocarbon Pollution Remediation Project (HYPREP), was established to date, the Project has had six Supervising Ministers and they are: Amina Mohammed, Jibril Ibrahim Usman, Hassan Zarma, Mahmoud Abubakar, Sharon Ikeazor and Abdullahi Mohammed.

Meanwhile the Honourable Minister of Environment, Mohammed Abdullahi has assured that the Ogoniland clean-up project will go on unhindered, and its implementation carried out in line with global standards.

Abdullahi gave the assurance as he assumed office as the substantive Minister of Environment and played host to the Managing Director of Shell Petroleum Development Company (SPDC), Osagie Okunbor at the ministry's headquarters in Abuja.

SPDC and other Joint Venture Partners are the financiers of the Ogoniland clean-up project and have remained committed to the timely release of funds for the project.

The Honourable Minister disclosed that one of the key directives he received from President Muhammadu Buhari is to ensure that the project stays on course and not lose steam.

“He has promised that the Ogoni Clean-up exercise goes on unhindered without distortion and we have taken a number of decisions which is essentially targeted that we deliver on this mandate. First, we have raised a committee to work at most within one week and submit their report on the status of the project. We are also examining concerns raised by partners, so we are determined to deliver on this project.”

The MD of SPDC, Okunbor, expressed his delight at the Honourable Minister's favourable disposition to the Ogoniland clean-up project, particularly his resolve to fast-track delivery of the project in a transparent manner.

Okunbor said his visit was to strengthen collaboration between the Ministry and SPDC in the implementation of the United Nations Environment Programme's report on the Ogoni environment.

“This is one of the key ministries of the federal government that we interface with, particularly with respect to the key deliverable of the clean-up in Ogoni land which we are wholeheartedly committed to.

“So, we thought it wise to come in early to engage you on how to ensure that we sustain the progress that we have made so far on this project.

“To ensure that issues of delivery and transparency are clearly on the table and as we have listened to you, we are encouraged to know that these are your priorities.”



Water station under construction

## HYPREP WATER PROJECT IS SUSTAINABLE - DR GIADOM

Unlike the many moribund water facilities across Ogoniland that are not producing water due to lack of sustainability plans, the water projects being embarked upon by the Hydrocarbon Pollution Remediation Project (HYPREP) come with a sustainable power component that will offset the running cost on the benefiting communities.

Project Coordinator of HYPREP, Dr Ferdinand Giadom has said using the benefit of hindsight on why previous water facilities in Ogoniland failed, the six on-going phase one Water Projects would be reviewed to address emerging realities and thereafter a workshop convened where the water engineering companies, and other stakeholders will brainstorm to produce a more sustainable plan for the water projects.

Dr. Giadom stated this at the end of his assessment tour of phase one water projects across the four Local Government Areas of Ogoniland to have firsthand information on the level of work done. The provision of potable Water is one of the core deliverables of HYPREP as recommended in the United Nations Environment Programme's Report on Ogoniland.

During the visit, Dr Giadom hinted that the sustainability component of the water project would be reviewed to meet emerging realities. This is partly against the backdrop of the proposed running cost of the Projects which he observed, may be huge for the communities to borne. He further disclosed that a workshop will be convened with the Water Contractors and other stakeholders towards articulating a more sustainable plan for the water projects.

In the view of Dr. Giadom, it would make no economic sense disbursing huge amount of money to provide water facilities that would go into desuetude after commissioning because of no sustainability plan.

"The sustainability plan is something we are taking very seriously. Most of the projects as conceived now do not have that in place. We are convoking a workshop where we shall bring all stakeholders together to now look at the sustainability plan and implement. Of course, it makes no sense to deploy enormous resources to providing water that will not be sustainable. We are committing to the fact that this is not going to be like other projects in the past where the sustainability plan was not put into consideration"

The Project Coordinator observed that the energy demand of the water stations poses some challenge to their sustainability, noting that plans are on to provide alternative sources of energy to make them sustainable and assured the Ogoni communities that the sustainability plans would be in place at the handover of the Projects, adding that when completed, the water will meet the standard of potable water.

"We are making sure that we raise the pH value to the neutral level of seven (7) so that we know that the water we are bringing to communities is fit for purpose and meets the World Health Organization (WHO) standards for potable water. We will ensure that we are providing water that meets the standards; water that is not acidic, that is why our treatment rooms, facilities and the in-house laboratory benches are filled with equipment that will enable us deliver water, not only in quantity but also in quality"

On the timeline for the completion of the water contracts, Dr Giadom stated that the Project will ensure that the contractors commit to a timely delivery, adding that HYPREP will play its part to ensuring that this is achieved.

He stressed that the timely delivery of the water project is key as the provision of potable water is one of the emergency measures and HYPREP is committed to achieving this as fast as possible and noted that a lot of progress has been made on the sites visited and that water will soon be flowing in the communities.

Dr Giadom further disclosed that the additional fourteen water projects in the Phase two contracts which would cater for more communities would come

on stream when key issues noticed in the current project like that of sustainability are addressed.

The water projects visited are sited in Alesa, Agbonchia, Ogale and Egbubu communities in Eleme Local Government Area (LGA); Korokoro and Nonwa in Tai LGA; Barako, Terabor and B-Dere in Gokana LGA; Bori, Kpean and Zaakpon in khana LGA. The facility in Alesa services the booster stations in Alesa and Agbonchia and has started supplying water to the adjoining communities of Alode, Aleto and Ogale. The Bori Water Facility will service the booster station in Zaakpon. The station in Kpean will supply water to Tera-ue and Teenama.

The visit to ongoing water projects is the first by Dr. Giadom on his assumption of office as the second substantive Project Coordinator of HYPREP and he has hinted that such site visits will be a regular feature on his itinerary.

## LIVELIHOOD DATA CAPTURE: Ogoni TURN-OUT EN MASSE

- UNEP, NGOs Play Watchdog Role
- Physically Challenged Persons Included

The data capturing exercise for the Livelihood Training of Ogoni women, youths and ex-artisanal refiners is getting the anticipated participation and cooperation of the target beneficiaries.

So far, the exercise has been conducted in Eleme, Tai and Khana Local Government Areas, where the people turned out enmasse to have their biodata captured in a peaceful and orderly manner. The capturing of ex-artisanal refiners from Gokana was put on hold because of some disparities that are now being sorted out and the exercise will resume as soon as the resolution is concluded.

In the exercise conducted so far, about two thousand three hundred and eighty-seven beneficiaries have been captured showing their different skill areas. Some of the skill areas that beneficiaries indicated interest include, argon welding/metal fabrication, crane operation, paint production, solar power, website design and development, digital marketing and mobile application development, fish farming among others.

The Head of Livelihood and Sustainable Development, HYPREP, Mrs Josephine Nzidee said there about twenty-six skill areas being proposed by HYPREP, but the beneficiaries are also at liberty to indicate their areas of interest if they are not in the list put forward by the project to guide them.

Mrs Nzidee stated that the entire process for the selection of beneficiaries for the training was followed through in transparency.

“We carried out the lucky dip process and that ensured that everybody was given a free and fair opportunity to pick and were shortlisted for the programme and we also gave specific slot to ex-artisanal refiners being that the recommendation of the UNEP focuses on providing alternative means of livelihood to ex-artisanal refiners. They did not go through the lucky dip process but for the community beneficiaries they went through the lucky dip process, and we also had Civil Society Organization at the exercise to monitor and ensure that there was transparency. Reports for the different Civil Society Organizations that were there show that the exercise was very transparent.”

The Head of HYPREP Livelihood Unit also stated that to maintain the standard operating procedure for the exercise, UNEP was consulted throughout its development and implementation. Her words:

“UNEP officials were there physically throughout the process. We had a strategy paper developed which passed through them and they reviewed it and based on the strategy paper that was developed we went into the field to implement. They were also part of the team that designed the needs assessment forms, and they are currently working with us in the data entry, analysis and report writing. They are with us all through.”

To further ensure that all Ogonis are given a fair opportunity for participation irrespective of social status, a special consideration was given to physically challenged persons who were reached out to and captured at the Project Coordination Office. “We gave some slots to the physically challenged. We gave them that special concession. We interfaced with their leadership, and they gave us some names across the four Local Government Areas of Ogoniland. They did not go through the lucky dip process; they actually came to the Project Coordination Office to be captured.”

The next phase of the exercise is the conduct of due diligence by the Project Coordination Office on the training centres to assess their fitness and adequacy for the trainings. The due diligence was to come last after the beneficiaries have identified their areas of interest to know the number of persons in a specific skill area.

“We are trying to identify facilities that can carry out these trainings. At least every facility that we would be working with should be able to train a minimum of fifty trainees. We could not have identified any training centre before the data capturing because we would not have known the training areas that the beneficiaries would choose even when we proposed about twenty-six skill areas on our forms, and we also knew that some beneficiaries may choose something outside the listed skills. So, we needed to know what skill they needed to be trained in before we start to identify the facilities to be trained in.”



Biometric Capturing Exercise for Livelihood Programme



Biometric Capturing Exercise in Progress

## CRAC RESOLVES LAND DISPUTE BETWEEN BIARA, KPITE COMMUNITIES

The Central Representative Advisory Committee (CRAC) of the Hydrocarbon Pollution Remediation Project (HYPREP) has waded into what could have escalated into a full-blown land dispute between Biara Community in Gokana Local Government Area (LGA) and Kpите Community in Tai LGA and nipped it in the bud.

The intervention followed a petition written by the Paramount ruler of Biara Community, Chief Barisi Kpaama, JP and addressed to the Project Coordinator of HYPREP, Dr Ferdinand Giadom indicating that HYPREP Lots 19 and 20 Clean-up sites are on parcels of land owned by Biara indigenes but erroneously referred to as sites owned by the neighbouring community.

Chief Kpaama stated in the letter that from the inception of Shell Petroleum Development Company (SPDC) occupation of the Trans-Niger pipeline in Biara where the proposed HYPREP Lots 19 and 20 Clean-up sites are located, Biara has been the Community that the SPDC annual royalty is paid to alone. He therefore demanded in the petition that the sites be properly designated as sited in Biara and not Kpите Community.

Upon receipt of the petition, the Project Coordinator, Dr Giadom had dully forwarded same to CRAC being the Governing Structure of HYPREP saddled by the responsibility of resolving such matters.

CRAC had accordingly summoned a peace meeting of representatives of both communities with a view to resolving the issue amicably at the Project Coordination Office of HYPREP in Port Harcourt.

At the meeting, the Paramount ruler of Kpите Community, HRH Mene Samuel Nnee Stated that no copy of the petition had been made available to him as the leader of the Community but however submitted that the Akpanabana family of Kpите and the Nnakpa family of Biara share a common boundary and have lived in peace overtime in the location where the two remediation lots are sited.

Mene Nnee stated that the right thing the Biara community should have done would have been to consult the Nnakpa's family to brief them on the rightful owners of the disputed land.

Representative of the Nnakpa family, Emababari Saana and Bob-two Nkue of the Akpanabana family made it clear that both families share common boundary and have never had any boundary issue.

The CDC Chairman of Biara Community, Nvinmene Evans, in his contribution said judging from the position of both families, it was obvious the families do not have boundary disputes and stated that Lot 19 is between both Communities (Kpите and Biara), while lot 20 has nothing to do with Kpите Community.



HYPREP CRAC Members on Inspection of Disputed Land between kpite & Biara Communities



Dr. Giadom in Handshake with outgoing M&E Head, Dr. Sampson Ebimaro

## HYPREP: PIONEER UNIT HEADS REDEPLOYED

Not fewer than four Heads of Unit and other officers who were deployed from the Federal Civil Service to the Project Coordination Office of the Hydrocarbon Pollution Remediation Project (HYPREP) have been redeployed to their parent Ministries in Abuja.

Their redeployment is in keeping with the promise of the supervising Minister of the Project and Honourable Minister of State for Environment, Chief Sharon Ikeazor to reorganize the Management of HYPREP for better performance of its mandate of remediating impacted sites in Ogoniland and delivering on other key measures as recommended in the United Nations Environment Report on Ogoniland.

The affected officers who had stayed on the Project for over four years were asked to return to base with effect from April 1, 2022.

Following their immediate redeployment, the Project Coordinator, Dr. Ferdinand Giadom put together a send forth for them in the spirit of comradery and appreciation of their contributions to the project.

Dr. Giadom who wished them well in the next phase of their careers, thanked them for laying the foundation upon which the project stands and for the sacrifice they made to get the project to the present state. His words, "It is out of the sacrifices you made that we all stand here today to have a Project Office, a Project that is running and a Project that will continue to run."

The HYPREP Project Coordinator stated that the Project was designed to impact the Ogoni

communities, requiring services from different professionals from different areas and that the services, the outgoing deployed staff have rendered to the Project will be etched in the sands of time and encouraged them to celebrate the success they recorded.

He however urged the staff of the project not to feel sad and disappointed over the redeployment of their colleagues as there is an entry and exit point at every stage of life, and eventually, everyone will leave at some point.

Dr. Sampson Ebimaro, the outgoing Head of Monitoring and Evaluation Unit, who spoke on behalf of the redeployed staff thanked the Project Coordinator for bringing remarkable changes to the Project since he assumed office and expressed confidence in the abilities of Dr. Giadom to take the project to greater heights.

He appealed to Staff of HYPREP to support the policy focus of the new administration for the Project to succeed and remarked that it is not accidental for Civil Servants to be redeployed and promised on behalf of his colleagues to always keep in touch.

Daniel Dekil in a goodwill message on behalf of members of staff appreciated the outgoing Heads of Unit and staff for their services and contributions to the success of the Project, assuring that their legacies would not be erased from the annals of HYPREP.

Among the Heads of Unit redeployed are Isa Wasa - Communications and Community Engagement, Dr. Sampson Ebimaro - Monitoring and Evaluation, Mrs Obenachi Jumbo - Administration and Finance, and Charles Aigbokhae - Audit.



Dr. Giadom giving an address at a send forth party for Redeployed Staff

# FEATURE

## REMEDIATION METHODS AND THEIR APPLICATIONS/EFFICACIES IN Ogoniland CLEAN-UP

By: *Sornaatah Nke-ee, Yusuf Nurudeen and Akinade Ayomide*

Environmental pollution is one of the most existential threats to our world. Cleaning up environmental pollution is essential for human health and the environment. In simple terms, Hydrocarbon remediation is the cleanup of hydrocarbon bound residue in the soil and groundwater. Remediation comprises of three methods, namely: Physical method, chemical method and biological method. The Biological method is subdivided into two which are: Bioremediation and Phyto-remediation.

The Hydrocarbon Pollution Remediation Project (HYPREP) a project set up by the Federal Government of Nigeria to implement the United Nations Environment Programme's report on Ogoniland employs the bioremediation method amongst other methods in cleaning up hydrocarbon pollution in Ogoni land. Also, combined approach technique, which comprises of mixture of other remediation methods, is encouraged in specific terrain as it has been proven to increase the overall biodegradation of contaminants in the environment.

Bioremediation is a branch of biotechnology that employs the use of living organisms, like microbes and bacteria, in the removal of contaminants, pollutants, and toxins from soil, water, and other ecosystem. Bioremediation may be used to clean up oil spills (hydrocarbon contaminants), contaminated groundwater and other environmental concerns. This biological approach of remediation can be executed through introduction of efficient microbial strains (Bioaugmentation) or by addition of rate limiting nutrients to the soil (Bio stimulation) to enhance the remediation process significantly.

It is cost effective and environmentally friendly, hence the widely acceptable application of this method. Environmental conditions must be appropriate for microbial growth and activities for bioremediation to be effective.

The process of pollutant degradation depends primarily on the nature of the pollutant, taking into consideration, site of application, pollutant nature, depth and degree of pollution, type of environment, location, cost, and

environmental policies. Apart from the above criteria, oxygen and nutrient concentrations, temperature, pH, and other abiotic factors that determine the success of bioremediation processes are also given major considerations prior to a bioremediation project.

Bioremediation can either be done "in situ", which is at the site of the contamination, or "ex situ," which is a location away from the site. Both in situ and ex situ techniques can be bioaugmented/bio stimulated or a combination of both techniques.

HYPREP employs the in-situ and ex-situ methods of Bioremediation methods in cleaning up environmental pollution in Ogoni land.

**In-situ Bioremediation:**

This technique involves the application of biological materials in treating hazardous compounds at the site of pollution. It does not require any excavation; therefore, it is accompanied by little or no disturbance to soil structure. The optimization and control of microbial transformations of organic contaminants require the integration of many scientific and engineering disciplines. Some of the in-situ bioremediation practices are discussed below.

**Natural Attenuation or Intrinsic Bioremediation:** This process involves the utilization of indigenous microorganisms that have the capability to naturally biodegrade pollutants thereby reducing the concentration, toxicity and mobility without any enhancement/human manipulation of the environmental conditions.

**Biosparging:** This involves the injection of air under pressure below the water table to increase ground water oxygen concentrations and to enhance the rate of biological degradation of contaminants by naturally occurring bacteria. Biosparging increases the mixing in of the saturated zone and thereby increases the contact between soil and ground water. The ease and low cost of installing small-diameter air injection points allow considerable flexibility in the design and construction of the system.

**Bioventing:** Bioventing is a promising new technology that stimulates the natural in situ biodegradation of any aerobically degradable compounds by providing oxygen to the existing soil microorganisms. It uses low air flow rates to provide only enough oxygen to sustain microbial activity. Oxygen is most commonly supplied through direct air injection into residual contamination in soil by means of wells. Henceforth, the adsorbed fuel residuals are biodegraded, and volatile compounds are also biodegraded as vapors move slowly through biologically active soil.

**Phytoremediation:** Is a method that utilizes plant and their microbes for environmental clean-up. It is applicable to both organic and inorganic pollutants in soil and effluents

through processes within the plant via extraction or through processes within the soil.

Ex-situ Bioremediation:

This technique involves excavating pollutants from polluted sites and subsequently transporting them to another site for treatment. Ex situ bioremediation techniques are usually considered based on the cost of treatment, depth of pollution, type of pollutant, degree of pollution, geographical location and geology of the polluted site. Some of the ex-situ bioremediation practices are discussed below.

**Bio-piling:** This is a full-scale technology in which excavated soils are mixed with soil amendments, placed on a treatment area, and further bioremediated using forced aeration. The contaminants are reduced to carbon dioxide and water. A basic bio-pile system includes a treatment bed, an aeration system, an irrigation/nutrient system, and a leachate collection system. Moisture, heat, nutrients, oxygen, and pH are also controlled to enhance biodegradation. The irrigation/nutrient system is buried under the soil to pass air and nutrients either by vacuum or positive pressure.

**Land Farming:** Contaminated soil is spread onto a High-density Polyethylene (HDPE) liner and nutrient applied in a favorable condition (moisture, pH and oxygen) and periodically tilled to ensure aeration. Also, it is engineered to promote the growth and reproduction of indigenous aerobic bacteria to degrade the contaminants and to prevent further contamination from the site.

**Composting:** windrows rely on periodic turning of piled polluted soil to enhance bioremediation by increasing degradation activities of indigenous and/or hydrocarbon degrading bacteria present in polluted soil. The periodic turning of polluted soil, together with addition of water bring about increase in aeration, uniform distribution of pollutants, nutrients and microbial degradative activities, thus speeding up the rate of bioremediation, which can be accomplished through assimilation, biotransformation and mineralization

#### EFFECTIVENESS AND BENEFITS OF BIOREMEDIATION

The effectiveness of bioremediation method is dependent on having the right organisms in the right condition with the right environmental factors for optimum removal of pollutants. Microorganisms, which can efficiently degrade pollutants, are bacteria, fungi, algae, and plant species.

Bioremediation provides several advantages compared with conventional techniques like that of land filling or incineration. It is widely acceptable by the public due to its natural process, and it also has an acceptable waste treatment process. The residues formed by a bioremediation process are harmless and they include;

water and carbon dioxide. Bioremediation is:

- Eco-friendly
- Cost effective
- Good public acceptance
- Minimal exposure of on-site workers to contaminants of concern

Bioremediation is less intrusive and can facilitate remediation of environmental impacts without damaging delicate ecosystems. Additionally, bioremediation methods have proven in different studies to have a ninety five percent net reduction of chemical concentrations, allowing for the beneficial future use of property in the area.

After Remediation works have been completed in impacted areas and certified, farmers can return to their various farmlands, cultivate crops and have good yield with no accumulated toxic contaminants being transferred along food chain.

The use of bioremediation in Ogoni land cleanup project restores the ecosystem to its natural state because its processes are completely natural with almost no side effect.

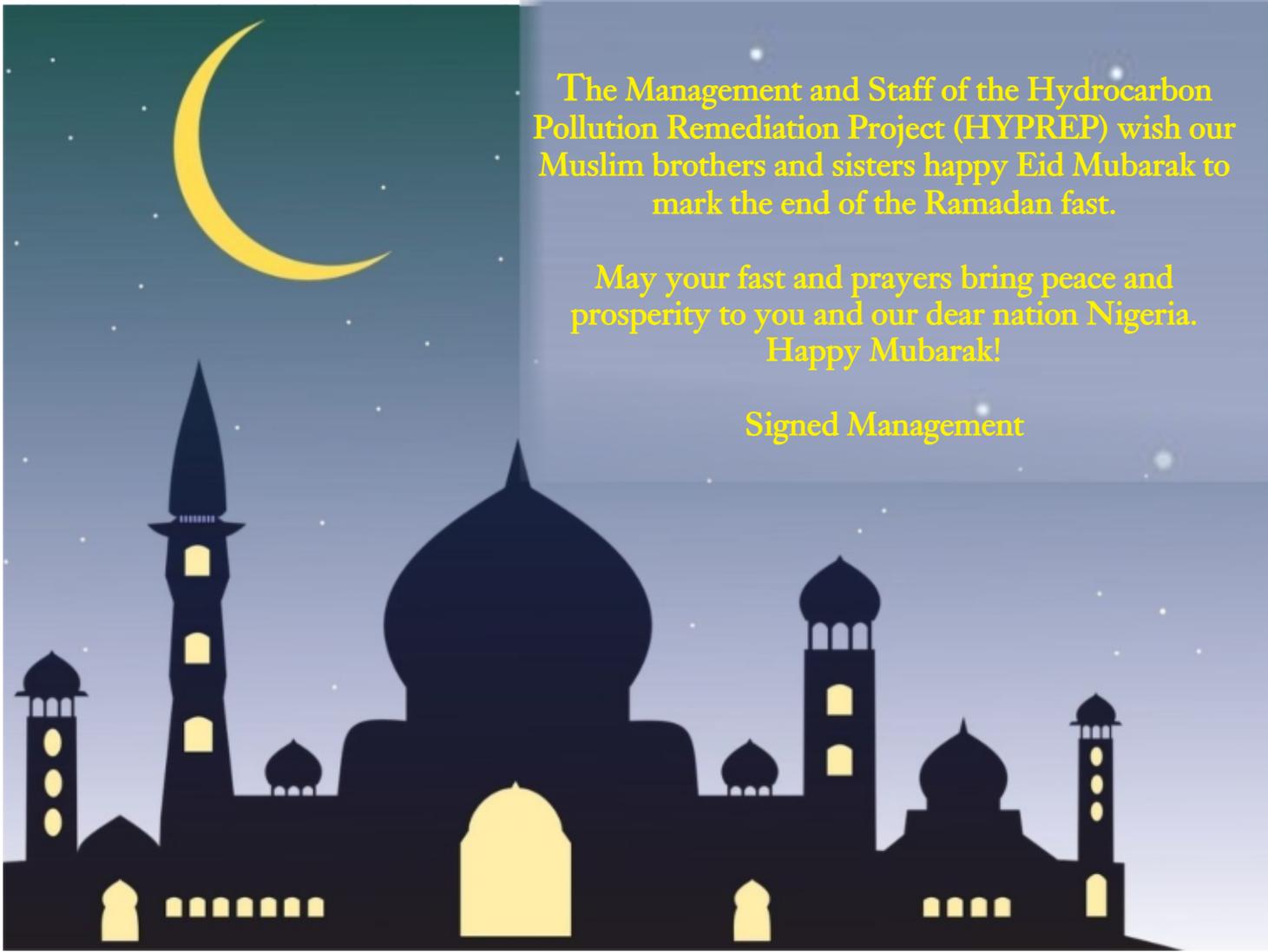
In summary, the foremost step to a successful bioremediation is site characterization, which helps to establish the most suitable and feasible bioremediation technique.

## **HAPPY**

CHILDREN'S DAY CELEBRATION

*You are that unpolluted future  
That we work to remove every torture  
As you march to celebrate your day  
To that future we toil to pave way*

**BEST WISHES FROM MANAGEMENT  
AND STAFF OF HYPREP!**



The Management and Staff of the Hydrocarbon Pollution Remediation Project (HYPREP) wish our Muslim brothers and sisters happy Eid Mubarak to mark the end of the Ramadan fast.

May your fast and prayers bring peace and prosperity to you and our dear nation Nigeria.  
Happy Mubarak!

Signed Management

**HAPPY**

WORKERS' DAY CELEBRATION

The Management and Staff of the Hydrocarbon Pollution Remediation Project (HYPREP) wish all Nigerian workers a happy May Day Celebration. The energy of your labour is the fuel on which the Nigerian economy runs and as the goose that lays the golden egg, we cherish and wish you a life of prosperity in good health and service to our dear nation.

Signed,  
Management

# PICTURES OF THE MONTH



FIFTH FROM LEFT, KING OF ELEME LAND, HRM PHILIP O. OBELE



FROM LEFT, 1. CELESTINE AKPOBARI, 2. DR. FERDINAND GIADOM, 3. BARR. MOHAMMED ABDULLAHI, 4. AJURI NGELALE 5. HRH BEBE OKPABI, 6. HRH BARIDAM



FROM LEFT, 1. PROF. NAANEN, 2. PROF. KONYA, 3. FORMER MOSOP PRESIDENT, PYAGBARA 4. DR. PETER MEDEE, 5. SEN. BIRABI



CROSS SECTION YOUTHS



CROSS SECTION OF GOKANA CHIEFS AND ELDERS



FROM LEFT, 1. MENE BUA BAEN, 2. HRM GBENE MENE KEN KHANA, 3. EMERE ALESA, 4. HON. D.K. BADOM, 5. HRH MENE BUA BANGHA



HON. MINISTER IN GROUP PHOTOGRAPH WITH CHIEFS AT PALACE OF GBEREMENE GOKANA KINGDOM



HON. MINISTER. BARR. MOHAMMED ABDULLAHI WITH MANAGEMENT AND STAFF OF HYPREP

## **THE ENVIRONMENT ON MARBLE**

Sooner or later, we will have to recognize that the Earth has rights, too, to live without pollution. What mankind must know is that human beings cannot live without Mother Earth, but the planet can live without humans.

*– Evo Morales*

# ... for a cleaner and greener Ogoniland

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