



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

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HYPREP COMMISSIONS BARAKO WATER SCHEME



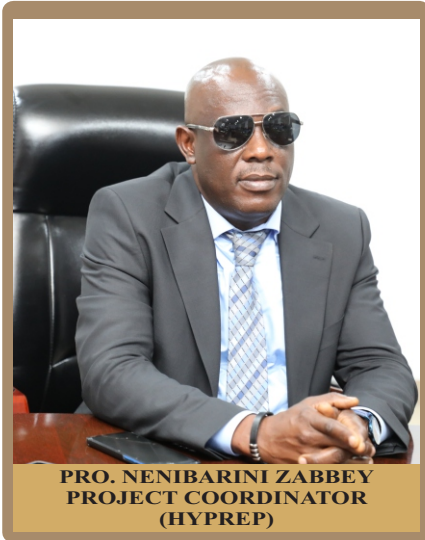
HYPREP HANDS OVER SITES TO NO FEWER THAN 60 CONTRACTORS

SDN PLEDGES SUSTAINED SUPPORT FOR OGOINI CLEAN-UP

HYPREP PLANS LARGE-SCALE MANGROVE RESTORATION

**HYPREP
HERALD
NOT
TO BE
SOLD**

THE PC'S DESK



On Monday, March 22, 2021, the then Honourable Minister of Environment, Dr. Mohammad Abubakar, flagged off the construction of six water projects across the four Local Government Areas of Ogoniland under the Phase 1 provision of potable water for Ogoni communities in a ceremony held in Bori the Headquarters of Khana Local Government Area. It was the culmination of the Federal Executive Councils approval given earlier on 3rd March for the award of contracts for six water schemes in Ogoniland at a total cost of N6.05 billion.

The six water schemes are: 1. Bori/Kpea Water Scheme in Khana Local Government Area; 2. Barako/B-Dere/K-Dere Water Scheme in Gokana Local Government Area; 3. Terabo Water Scheme in Gokana Local Government Area, 4. Korokoro/Nonwa Water Scheme in Tai Local Government Area; 5. Alesa Water Scheme in Eleme Local Government Area; and 6. Ebubu/Nsisioken/Ogale Water Scheme also in Eleme Local Government Area.

Although due to several factors, among which were inflation arising from the global COVID-19 pandemic of the previous year, need to revisit the concept note to take into cognizance new trends in public water

engineering and proper sustainability plan. The initial project duration deadline was not met, and the projects were not abandoned but followed through resulting in the completion of the Alesa Water Scheme in mid-2022. On July 26, 2023, the Permanent Secretary in the Federal Ministry of Environment, Ibrahim Yusufu was in Barako to commission the water scheme there for use by the community. Though long in coming, the joy and gratitude of the locals and their leadership was electrifying and one that would encourage HYPREP to continue to deliver on the remaining water schemes and the newly awarded potable water projects in Ogoniland. The Permanent Secretary also handed over sites to contractors to construct 14 water facilities that will reticulate 54 Ogoni communities.

As I have promised on assumption of office as the Project Coordinator of the Hydrocarbon Pollution Remediation Project (HYPREP), under my coordination of HYPREP, the Ogoni people will get the best, in terms of quality delivery of projects through enhanced and robust monitoring and evaluation among other proactive strategies. The remaining four LOTS in the phase 1 water contracts to which the Barako and Alesa water projects belong, and the new fourteen water schemes only be completed according to the standards specifications. Certainly, the water output must meet national and World Health Organization (WHO) guidelines for

potable water. We will insist that Ogoni gets the best from the clean-up exercise to the satisfaction of stakeholders.

The inaugurated Barako Water Scheme would be followed shortly by the commissioning of the Korokoro Water Scheme which, but for some leftover housekeeping jobs, would have been commissioned on same day with Barako's. Our target is to ensure that as many communities of Ogoni as possible get access to potable water to turn around water, sanitation, and health conditions of the people.

Providing sustainable potable water in an area with contaminated groundwater requires the input of seasoned experts. We are privileged in this regard to have the support of the United Nations Environment Programmes, which has availed us of the services of a renowned water consultant, Engineer Ramesh Ummat. He has decades of experience in public water works that will benefit the HYPREP water schemes.

We will therefore need the cooperation of the communities, which we expect to create a conducive environment for the contractors to deliver on time. The communities should also own and protect the water facilities. On our part, we assure all stakeholders of the full benefits that the water and other projects will bring to the Ogoni communities. We will leverage the partnership of the primary stakeholders to deliver sustainable and quality potable water to the Ogonis.

Editorial Crew

Prof. Nenibarini Zabbey	Publisher-in-Chief
Kpoo Bari Nafu	Editor
Faith Deekor	Reporter
Imeh Ofem	Reporter
Tombari Naadue	Camera

In this Issue

This edition of the HYPREP Herald leads with the cheering news that has been long in coming – the commissioning of the Barako Water Scheme provided by the Hydrocarbon Pollution Remediation Project (HYPREP). The inauguration of the water scheme, which was performed by the Permanent Secretary, Federal Ministry of Environment, Ibrahim Yusufu drew a large crowd of stakeholders, the leadership and membership of the Barako community who came to celebrate the delivery of potable water in a community that had suffered from perennial water shortage for a long period of time.

The Barako water commissioning was followed by hand over of sites to no fewer than sixty contractors for shoreline clean-up, provision of potable water to more communities (fifty-two in number), construction of the Centre of Excellence for Environmental Restoration, the Ogoni Specialist Hospital and the Ogoni Power Project. All these projects will bring about an upscale in economic activities in Ogoni that will translate to improved income and standard of living.

The clean-up of shorelines that the sites have been handed over to contractors is a process that will end with the planting of mangroves on those remediated mudflats. To making preparation for that terminal exercise, the Project Coordination Office with support the United Nations Environment Programme (UNEP) embarked on a field visit to creeks of Bodo where the Bodo Mediation Initiative (BMI) planted mangroves to assess the success rate as to learn from their experience and even improve on it. The report of that visit is carried in this issue. Similarly, the contractors handling the phase 2 remediation of oil impacted sites had an interactive session with the Management of the project to fashion out ways of

improving on the remediation works they are handling – the processes and methods that will be more friendly to the environment.

The Project Coordination Office (PCO) within the month received high profile visitors chiefly among them were the Vice Chancellor of the Rivers State University and his team and officials of Health of Mother Earth Foundation (HOMEF) led by the Director, Nnimmo Bassey who were in HYPREP to seek areas of collaboration with the project. The PCO also honoured several invitations by Civil Society Organizations like the People Advancement Centre, Environmental Rights Action/Friends of the Earth Nigeria and the Social Democracy Network.

Effective stakeholder engagement and community participation is a determining factor to the success of projects like that of HYPREP. To this

end the project organized a forum for the Central Representative Advisory Committee and the Zonal Representative Committee of HYPREP and the leadership of impacted communities to sensitive all the stakeholders on their respective roles in relation to the project.

We have a beautiful poem on Vuruvuru in B-Dere a site that remediation work will soon start. The poem paints a picture of what Vuruvuru was, what it is now and the hope of restoration that awaits her. We do hope that you will find this edition interesting and informative as always and we will appreciate constructive feedback that will help us serve you better.

POETRY CORNER

VURUVURU - A TIDAL SWAMP

By: Kpoobari Nafo

At that early time when the water was potable, alive, and clean,
So that women, their cassava at your feet laid in routine.
In exchange for a fermented fufu in woolen packet
And before going home, stopped over at your bio supermarket.

Calabash full of crustaceans they picked from nature's great shelves,
And accompanied by fresh vegetables tied in separate halves.
Vuruvuru's gift for family dinner in entirety
Not a fast food served on a scale but every meal a variety.

Besides being a haven for teeming terrestrial species,
A resort you were for those charming cute clear body fairies.
Who made apparitions among the lush screw pine plants on sunny days,
But the maids like the oysters have vanished from your spoilt shorelines.

For fear their aquiline bodies would be tanned by the floating tar,
Crude's last product to have dimmed the nightly watery saline star,
Even the plain ever flowing muuboo stream cannot wash your body.
Your stain is deep and deadly, your floor polluted and muddy.

But Vuruvuru will resurrect a clean beach where plants grow,
And her water cleansed of the soapy sheen that covers her flow.
A gift to next generation of children to bathe in her,
Flinging themselves down from the steep narrow bridge overlooking her.

Project News

HYPREP COMMISSIONS BARAKO WATER SCHEME

“The commissioning of the water project in Barako, the quality of infrastructure indeed give hope to other Ogoni communities. On behalf of other Ogoni communities, we will give the enabling environment to projects that will touch the lives of the people, the restoration of our livelihood. We support the remediation project and ask for more projects like this in Ogoni. We in Barako are very happy to be the first to benefit from the water project and we do not see it as coincidence, we see it as providence.”

That was how the Paramount Ruler of Barako ancient community and former Caretaker Committee Chairman of Gokana Local Government Council, HRH Mene Kadilo Kabari appreciated the Federal Government of Nigeria and the Management of the Hydrocarbon Pollution Remediation Project (HYPREP) for the 250,000-litre capacity water scheme constructed and commissioned by HYPREP for use by the community.

The Barako water scheme with a community wide reticulation is one of the six water projects in batch 1 of the provision of potable water in Ogoni as recommended in the United Nations Environment Programme (UNEP) report on Ogoniland.

Mene Kabari assured the Management of HYPREP of his community's determination to protect the facility and its sustainable use which he said is the community's way of appreciating the Government for the gesture.

Permanent Secretary of the Federal Ministry of Environment, Ibrahim Yusufu who inaugurated the water facility with a reticulation of over 10 Kilometers said the water scheme would guarantee a sustainable supply of good quality water to households in the community and thus reduce public health conditions associated with the



Yusufu

consumption of contaminated water. According to him, the Federal Ministry of Environment has consistently made deliberate efforts to recover lost grounds and ensure timely delivery of emergency interventionist projects, in line with the recommendations of the United Nations Environment Programme (UNEP) Report of 2011 on the Environmental Assessment of Ogoniland. He enjoined contractors handling water projects of HYPREP to expedite action on them for their timely completion.

“It is the Ministry's fervent commitment to expedite efforts in delivering the rest four lots of the emergency water interventionist projects before the end of the year, so all contractors handling the ongoing projects have been mandated to expedite execution and delivery of the remaining plants, in line with the projects' stipulated specifications and global best practice.”

The Permanent Secretary stated that the HYPREP water supply interventionist programme was not limited to the first six lots as HYPREP

has handed over fourteen (14) lots in Phase 2 to contractors for the construction of additional fourteen (14) potable water schemes which will cover fifty-two (52) communities across the four Local Government Areas of Ogoniland. He added that the Alesa, Aleto, and Agbonchia communities in Eleme LGA are already enjoying supply of potable water to their homes.

Yusufu enjoined the Ogoni people to own the project, shun theft and vandalism of project facilities, and incessant sponsored agitations which have encumbered the procurement



Mene Kabari



Prof. Zabbey

people towards the actualization of the HYPREP mandate.

“As we know, these projects entail significant economic resources, and the determination to protect and own them is the path to maximizing the benefits. On this note, I appeal to you to shun acts that will truncate the project cycle and affect its timely completion. Communities should reciprocate the Federal Government's efforts in bridging the development gap in Ogoniland by protecting and securing these facilities from vandalism and sabotage.”

He reiterated the commitment of HYPREP towards providing a robust, accountable, and transparent stakeholder engagement interface to identify and address potential issues that would impede the successful implementation of the projects. 'We will continue to revise and improve our strategy to enhance inclusivity, community ownership, and the participation of stakeholders,' he averred.

The Project Coordinator charged community leaders and stakeholders to collectively tackle the issue of re-pollution occasioned by oil theft and illegal oil refining, to guarantee the successful clean-up of Ogoniland. He appreciated the Permanent Secretary for coming to perform the commissioning despite his tight schedule and relayed the gratitude of the Ogoni people to the President and Commander-in-Chief of the Armed

process and effective delivery of emergency and livelihood support projects over the years.

“As we approach the twelfth anniversary of the submission of the UN Environment's Report on the environmental assessment of Ogoniland to the Federal Government of Nigeria, you will agree with me that actualization of an expeditious delivery of emergency projects and other interventions embarked upon by the Ministry/HYPREP requires unified efforts of all stakeholders, including the benefitting communities. I therefore solicit your support and cooperation in this regard.”

In his address, the Project Coordinator of HYPREP, Professor Nenibarini Zabbey said that the completion and commissioning of the Barako Water Scheme is an affirmation of the commitment of the Federal Government through HYPREP to the full implementation of the UNEP Report.

He noted that to ensure the sustainability of the project, HYPREP will continue to collaborate with communities in the design and execution of the projects and hand them over to the respective communities for effective

management. He added that HYPREP will manage the facilities for the first two years and subsequently train community workers and set up Water Consumers Association (WCA) for their continuous management and sustainability.

Prof. Zabbey said that to meet public expectations and cover lost time invested in building a solid and sustainable foundation for HYPREP, the project will be implementing several other projects which will run simultaneously. He stated that HYPREP is keen on the quick and effective completion of its projects and solicited the support of the Ogoni



Dr. Nwielaghi



Hon. Deko

Forces of the Federal Republic of Nigeria, His Excellency, Bola Ahmed Tinubu for his commitment towards the continuous implementation of the UNEP Report on Ogoniland.

“Let me sincerely thank the Permanent Secretary for coming to perform this commissioning ceremony. The Ogoni people have requested that I appeal to you to relay their gratitude and warm felicitations to the President and Commander in-Chief of the Armed Forces of the Federal Republic of Nigeria, His Excellency, Bola Ahmed Tinubu, for his commitment towards the continuous implementation of the UNEP Report on Ogoniland. I also want to thank Their Royal Majesties, Elected Representatives, Executive Council Chairmen, the Paramount Ruler of Barako, and other respected Traditional Rulers and community leaders, women, and youths of Ogoni.



HRM Baridam

Our united thanks also go to members of the HYPREP Governing Council, The Board of Trustees of the Ogoni Trust Fund, UNEP, SPDC JV, CSOs, CBOs, contractors, and the media.”

Also speaking at the commissioning, the Chairman, Board of Trustees (BoT) of HYPREP, Dr. Mike Nwielaghi called on traditional rulers, women, and youths of Ogoni to support HYPREP to ensure efficient and timely delivery of its programmes and projects, and assured the people that funds meant for the implementation of the UNEP Report on Ogoni are intact and would not be tampered with, as the project is paramount to the Federal Government.

He also lauded the Federal Government for implementing several other projects simultaneously. 'We are embarking on ambitious projects' for Ogoni people, he said.

In the same vein, HRM Mene Dr. Baridam Suanu, King of Bangha who doubles as the Spokesperson for the Central Representative Advisory Committee of HYPREP in his submission, acknowledged the role of the past President of the Federal Republic of Nigeria, His Excellency, Muhammadu Buhari in ensuring the clean-up project came to fruition. He appealed to the people of Ogoni to own the HYPREP project and enjoined contractors to respect the local content provision in their contracts by engaging youths of Ogoni

on site.

Representative of the Shell Petroleum Development Company (SPDC) on the HYPREP Project, Engr. Ekiyokenegha Clark lauded HYPREP for delivering the Barako Water Scheme and reiterated SPDC's commitment to the continuous funding of the Ogoni clean-up project. 'SPDC wants to see HYPREP deliver more projects timely, within cost, at the right quality, and within specification.'

In his vote of thanks on behalf of the people, the Chairman of Gokana Local Government Area, Honourable Confidence Deko appreciated the Permanent Secretary and his entourage for sparing time to visit Ogoni. He also thanked the pioneer Project Coordinator of HYPREP, Dr. Marvin Dekil for considering the Barako community for the water project, Professor Philip Shekwolo and Dr. Ferdinand Giadom for continuing with its execution, noting that the water will get to other communities of Ogoniland.

Highpoints of the event were the cutting of the tape on the water scheme by the Permanent Secretary, Federal Ministry of Environment, Ibrahim Yusufu and his decoration alongside the Project Coordinator of HYPREP, Professor Nenibarini Zabbey in Ogoni traditional attires by the chiefs and elders of Barako community.



Engr. Clark

HYPREP HANDS OVER SITES TO NO FEWER THAN 60 CONTRACTORS

Following the Presidential inauguration of some key HYPREP projects in April this year, the Permanent Secretary in the Federal Ministry of Environment, Ibrahim Yusufu has officially handed over project sites to successful contractors for the construction of the Ogoni Power Project, the 100-bed Specialist Hospital, the Centre of Excellence for Environmental Restoration, Buan Cottage Hospital, 14 water lots, 34 lots for shoreline clean-up and 9 lots for pilot mangrove planting which will take place along the shores of Bomu in Gokana.

The Permanent Secretary during the ceremonial handover of the sites held at the Gbene-Gininwa Hall at Saakpenwa the Headquarters of Tai Local Government Council disclosed that the event signaled the official commencement of the projects that hold profound benefits for the people.

According to him, the Ogoni Power Project will revolutionize the local economy and boost small and medium-scale enterprises, while the 100-bed Specialist Hospital will address extensively the health needs of the Ogoni people.

He noted that so far, a total of 89 polluted lots have been awarded to contractors for remediation across the four Local Government Areas of Ogoniland.

“In 2019, 21 contracts were awarded to commence remediation work at 12 contaminated sites across Ogoniland. In 2020, additional 29 contracts were awarded to continue with remediation works in 8 contaminated sites. In May 2023, the Honourable Minister of Environment handed over 38 lots to various contractors for the remediation of 17 medium risk contaminated soil and groundwater sites. Today, we are handing over the following sites to successful contractors for immediate commencement of works: a. thirty-nine (39) lots covering about 2000

hectares for the clean-up of contaminated shorelines in Gokana LGA, including nine (9) sites for mangrove revegetation in the Bomu area. b. Fourteen (14) lots for the construction of potable water supply schemes to about 52 major communities. c. Contract for the construction of the Centre of Excellence for Environmental Restoration. d. Contract for the construction of the Ogoni Power Project connecting Ogoni to the National Power Grid. e. Contract for the construction of Specialist and Cottage Hospitals for the benefit of Ogoni people.”

The Permanent Secretary also revealed that to bring the project closer to the people of Ogoni, HYPREP has constructed area offices in three of the four Local Government Area Councils in Ogoniland while that of Gokana is under construction.

The Project Coordinator of HYPREP, Prof. Nenibarini Zabbey said consultants have been mobilized to train ninety (90) Ogoni women and youths in mangrove nursing and planting which he said will create

more employment opportunities for the Youths.

“In the coming weeks, HYPREP will commence the training of 90 youths and women in mangrove nursery and restoration, thus leveraging the massive livelihood opportunities in shoreline cleanup and mangrove restoration. Consequently, the trained youths and women shall set up their mangrove nurseries and sell the seedlings to mangrove rehabilitation contractors. This will reinforce thirty-eight (38) livelihood trainings rolled out for Ogoni youths. The consultants that will conduct the livelihood trainings have been mobilized.”

Professor Zabbey urged the contractors to deliver the project according to specification and on time and appreciated the people of Ogoni for their support for the project thus far. He urged them to not only support the project but to own it and reiterated that HYPREP under his watch will deliver on its mandate.

Also, the Chairman, HYPREP Board of Trustees, Dr. Mike Nwielaghi lauded the Federal Government's commitment to the development of



Site Handover Ceremony



Site Handover Ceremony

Ogoni and enjoined the people to be patient as Ogoni is set to witness an increase in job opportunities for the locals. He charged the contractors to carry out their jobs on time as there is no room for cost variations in the HYPREP project.

The Paramount Ruler of Ogale community and member Board of Trustees of HYPREP, HRH Emere Godwin Bebe Okpabi while appreciating the Permanent Secretary for gracing the occasion congratulated the host communities to the various projects on what they stand to benefit. He assured that the people of Ogoni will be hospitable to the contractors and encouraged the contractors to be magnanimous in engaging the communities in their operations.

In the same vein, the Deputy Speaker

of the Rivers State House of Assembly, Right Honorable Dumle Maol expressed appreciation to the Federal Government for the large number of projects being executed at once in Ogoni, stating that it is the first of its kind. 'This is the first time as a person, and as a government person that I am sitting to witness the signing of this volume of contracts by one government agency.'

The Gbenemene of Tai Kingdom, HRM Samuel Nnee who is also a member of the Central Representative Advisory Committee (CRAC) of HYPREP in his remarks acknowledged the Federal Government for the volume of projects approved simultaneously for HYPREP especially the Specialist Hospital to be built in Tai and assured

that the people of Tai will secure and protect the project.

The Executive Chairman of Tai Local Government Council, Honourable Mbakpone Okpe in his vote of thanks urged the contractors handling the projects to engage the services of youths in the council area at their respective sites to reduce the crime rate in the area. The Tai Council boss also restated his commitment to providing an enabling environment for the contractors to work.

Director, Technical Services, HYPREP, Prof. Philip Shekwolo gave a detailed description of each of the projects and appreciated former President Muhammadu Buhari for setting up HYPREP.

Professor Shekwolo tasked contractors handling the projects on quality delivery by following the guidelines and specifications in their contracts.



Rt. Hon. Maol

RIVERS STATE UNIVERSITY SEEKS PARTNERSHIP WITH HYPREP

The Vice Chancellor of the Rivers State University, Professor Nlerum Okogbule has called for strategic collaboration between the University and the Hydrocarbon Pollution Remediation Project (HYPREP) to achieve the core mandate of the project which is the remediation of hydrocarbon impacted sites in Ogoniland.

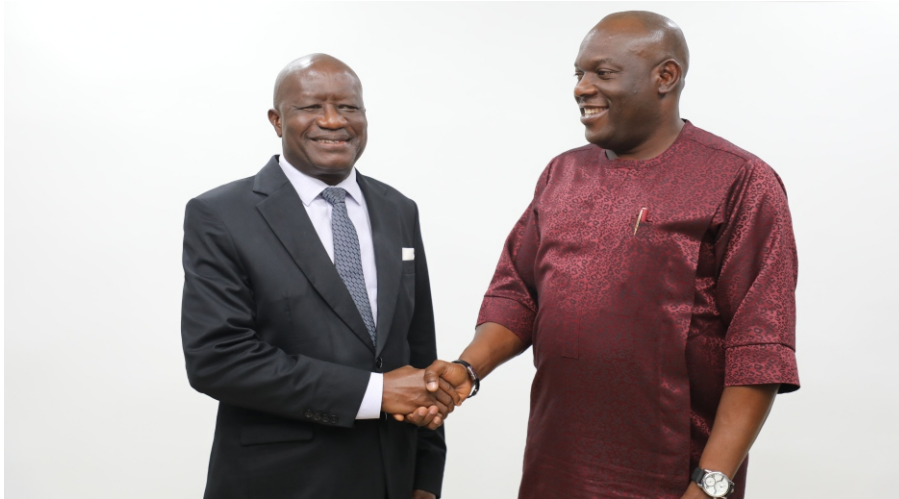
Professor Okogbule made the call when he led the Management team of

the Rivers State University to pay a courtesy visit to the Project Coordination Office of HYPREP, to congratulate Professor Nenibarini Zabbey on his appointment as HYPREP's Project Coordinator.

The Vice Chancellor stated that the work of HYPREP is science based and thus requires the input of academics to deliver a world class remediation that will meet the expectation of stakeholders and which its data can be

used for scholarly works.

In his words, "I want to appreciate you and your team for the efforts you have made so far in ensuring that universities are involved in what you are doing because when you are talking about carrying out remediation, you must have a preliminary investigation as to the extent of the damage and what could be done and this is where researchers come in, and the universities have a



L- R: Prof. Nlerum, Prof. Zabbey

pool of researchers in this particular area.”

Professor Nlerum congratulated Professor Zabbey on his appointment and appreciated him for receiving his team despite his busy schedule. He wished him success in his new role and prayed for a tenure filled with great accomplishments and progress for the people of Ogoni, Niger Delta, and the Nation at large.

He called the attention of the Project Coordinator to some of the problems facing the universities and called for the set up of a special programme to empower graduates with skills that will make them competent to carry out remediation activities.

“We have a pool of men and women who have graduated and are not doing anything and some of them are not

sufficiently skilled and of course they need to be equipped so that they fit into the work environment. This collaboration is very important because I think you cannot succeed without getting these experts in the various areas you have already identified. We will work with you for you to achieve the purpose for which your organization was set up.”

The Project Coordinator of HYPREP, Professor Zabbey thanked the VC for his University's sustained support for the Ogoni clean-up right from the early days of the United Nations Environment Programme (UNEP) study. He said that the essence of the meeting was to reinforce the collaboration that is already in existence between HYPREP and the

University from the time of the UNEP assessment to the implementation of the Report.

Professor Zabbey said that HYPREP has great confidence in the Universities in Rivers State especially the Rivers State University and the University of Port Harcourt to assist the Project in the task of site characterization of contaminated lands.

He stated that the Centre of Excellence for Environmental Restoration in Wiiyaakara community of Khana Local Government Area that HYPREP is building will serve as a formidable institution for integrated research for both undergraduate and graduate students.

The Project Coordinator appealed for the sustainability of the collaboration and synergy that exist between the Project and the University. He called on the University to assist HYPREP in the development of data from the field into useable form that can be published in Journals for global consumption, noting that the synergy would provide recommended service delivery as contained in the UNEP Report and make the center a major research hub in the West African sub-region.

He added that the collaboration would help to chart a new and more efficient way of delivering on the HYPREP project together.

OGONI CLEAN-UP:

CONTRACTORS ASKED TO ADOPT ECO-FRIENDLY TECHNOLOGIES

The Project Coordinator of the Hydrocarbon Pollution Remediation Project (HYPREP), Professor Nenibarini Zabbey has called on phase 2 remediation contractors to prioritize safety and adopt eco-friendly technologies that meet international best practices in the clean-up of oil-impacted sites in Ogoniland.

Professor Zabbey made the call during an interactive session with phase 2 remediation contractors held at the Project Coordination Office in Port Harcourt.

He urged the contractors to maintain a

cordial relationship with their host communities and stakeholders, stating that HYPREP will not accept any substandard work in the remediation of hydrocarbon impacted lands in Ogoni.

“Today marks the mobilization of 39 contractors that will be doing remediation works on our medium-risk sites. We need to take key steps, pre-mobilization steps so that we can be on the same page in terms of taking all the pre-mobilization steps. We need to remind ourselves that as we move to the site, we must adopt only

eco-friendly technologies. We do not want to cause additional problems in Ogoni land, we need to work according to international best practices.”

He added that 'we will be working in the communities, so we have to respect the rights of the community people, engage with them, and ensure that they are happy.'

On the methods and products to be adopted in the Phase 2 remediation works, Prof. Zabbey asked the contractors to adopt methods that are convenient for them, stating that the

products to be deployed on-site must be certified by the National Oil Spill Detection and Response Agency (NOSDRA).

He advised contractors to seek clarifications when in doubt from HYPREP scientific officers deployed as site supervisors even as the Project is determined to work in synergy with them and regulatory agencies to clean-up Ogoniland and deliver on other components of the project.

In his remarks, the Director of Technical Services, HYPREP, Prof.

Philip Shekwolo, disclosed that to have a wholistic assessment and delineation of impacted sites and simplify the interface with contractors, the Project had to engage the services of the University of Port Harcourt and the Rivers State University to carry out a wholistic assessment and delineation of all the sites not previously delineated.

Presentations were made on pre-mobilization activities' tracking, streamlining of site data gathering, responsibilities between the rapid site

characterization contractors and their Phase 2 remediation counterparts, alternative soil and groundwater remediation technologies in the Small and Medium Risk Sites, and HYPREP's Community Engagement Guidelines.

The meeting was attended by representatives of the United Nations Environment Programme (UNEP), the Shell Petroleum Development Company (SPDC), Management and Staff of HYPREP, and officials of remediation companies.

HYPREP TO TRAIN COMMUNITIES IN MANGROVE NURSING AND PLANTING

The revegetation of the mangrove forest where the Hydrocarbon Pollution Remediation Project (HYPREP) is moving in to remediate polluted mudflats is among the key deliverables of the Project whose mandate is to remediate hydrocarbon contaminated sites in Ogoni and restore the livelihood of impacted communities.

To this end, HYPREP is set to engage the services of experts who will train community people in the nursing of mangrove seedlings to be used for the revegetation of decimated mangrove forests around Ogoniland.

The Project Coordinator of HYPREP, Professor Nenibarini Zabbey disclosed this when members of Civil Society Organizations led by the Director, Health of Mother Earth Foundation (HOMEF), Nnimmo Bassey paid a courtesy visit on him at the Project Coordination Office in Port Harcourt, the Rivers State capital.

Professor Zabbey stated that HYPREP is aware of the huge livelihood opportunities that the nursing and planting of mangroves can offer to communities in Ogoniland which he said is the reason the Project is involving the locals in the mangrove re-planting project.

"It is important that the local people own the Mangrove Restoration Project in Bomu, so what we have



Prof. Zabbey & Bassey in group photograph with other officials

done is to consider the engagement of consultants and ecologists, who are going to train ninety youths in Bomu on how they can set up mangrove nurseries and we are not just doing the training, we are giving them some free seedlings that they will use to set up the nurseries. So, what that means is that contractors will buy from them instead of nursing the seedlings themselves. So, it is going to enhance livelihood in the communities, and it is going to leave behind the necessary skills that the community people will apply when HYPREP is out of their land because their livelihood depends on mangroves. With or without HYPREP they will take action because they now know what to do when they see the mangroves dying, so a whole lot of activities are going on

concurrently."

The HYPREP Project Coordinator thanked his visitors for felicitating with him on his appointment, stating that the Ogoni people who he is called to serve have a great expectation of him regarding the delivery of the clean-up project and the other social projects initiated to make life better for them.

"Every day that I sleep and wake up, I think about where we are headed and the burden on me to get to that destination. It's a very huge one. So, your visit this evening is like an energizer. It has unburdened me because it was like somebody that was fighting at the war front and at the same time, he was starving then suddenly, his father brought food to him at the war front. There is nothing

that would be more valuable than such food, so I thank you most sincerely for this very important visit."

Professor Zabbey hinted the members of the Civil Society Organizations of the work plan of HYPREP in the areas of remediation and mangrove revegetation.

"Many things are happening and in the coming weeks, Ogoni will be a beehive of activities because the Federal Government has awarded 39 LOTS on land remediation contracts, 34 shoreline cleanup contracts, 9 mangrove planting contracts. In the coming months about nine contractors will be planting mangroves in Bomu. Infact, in Bomu alone we have ten shoreline cleanup sites and nine mangrove planting sites. So that tells you the number of persons that will be engaged."

The Director, Health of Mother Earth Foundation (HOMEF), Nnimmo Bassey who visited HYPREP with other CSO's to congratulate Professor Nenibarini Zabbey on his appointment as the Project Coordinator of the Hydrocarbon Pollution Remediation

Project, pledged their continuous support for the success of the support.

"This is a very significant visit, and this is the first time we are coming as a group of comrades to say congratulation on your elevation into this office. Beyond saying congratulations, we have come to emphasize the fact that we all believe that the Ogoni cleanup should succeed. This is the primary basis of our undertaking and our expectations and what can be done. In the past we have done all we can to keep public expectations at the level that is conducive for work to continue."

Bassey informed the new HYPREP helmsman of the huge expectation of the people regarding the delivery of the clean-up project and expressed the confidence that Professor Zabbey was up to the task of rewriting the story of the Ogoni environment.

"We can just assure you that we would do what our mandate requires that we do. We won't close our eyes on what is going on and to be able to give honest assessment on what we see. This visit has a number of reasons why we came

apart from felicitating with you and also stating this broad objective that we have. We do know that there is a lot of public speculations, people are very suspicious on what is going on and so for us to be able to give honest responses to stakeholders and also to offer you advice, we would request that as much as possible Civil Society Organizations should have access to the work sites, access to the milestones, access to the content of the contracts. We may not believe but sometimes we need to know what these people are asking."

Nnimmo Bassey who was on the former Board of Trustees of HYPREP further stated that the project needs the support of all stakeholders to make it deliver on its mandate because 'if the Ogoni cleanup does not work, the Niger Delta is finished.'

PHASE 2 REMEDIATION: HYPREP MEETS WITH STAKEHOLDERS ON CONTRACT ADMINISTRATION

As the Phase 2 Remediation of impacted sites in Ogoni communities gets underway, the Management of the Hydrocarbon Pollution Remediation Project, HYPREP has convoked a consultative review forum for members of the Central Representative Advisory Committee (CRAC), the Zonal Representative Committee (ZRC), Paramount Rulers and Leaders of impacted communities.

The session offered the platform for the stakeholders to make inputs to the draft Contract Administration, Community Engagement, and Conflict Resolution documents of the project.

While declaring the forum open, the Project Coordinator of HYPREP, Professor Nenibarini Zabbey said the session would produce a harmonized stakeholders' position on community participation in HYPREP projects for mutual benefits.



Prof. Zabbey addressing Stakeholders

"As we are about to commence Phase 2 clean-up, it is important to gather the critical stakeholders of the project for us to be on the same page in terms of how we are going to interface with the contractors and make the remediation work hitch-free."

He added that the policy document of HYPREP that has been reviewed by

the United Nations Environment Programme (UNEP) and the Shell Petroleum Development Commission (SPDC) would be shared with the community leaders and relevant stakeholders to make their inputs to maintain uniformity across board and transparency in the programmes and activities of the project.



BOREHOLE HEAD AT BARAKO WATER STATION



YUSUFU DRINKS FROM THE BARAKO WATER STATION



AERIAL VIEW OF BARAKO WATER STATION



FRONT VIEW OF BARAKO WATER STATION



QUALITY ASSURANCE LABORATORY AT BARAKO WATER STATION



PRESSURE FILTERS AT BARAKO WATER STATION



YUSUFU AND OTHER DIGNITARIES INSPECT CONTROL PANEL ROOM AT BARAKO WATER STATION



CONTROL PANEL AT BARAKO WATER STATION



Cross Section of Stakeholders

Professor Zabbey therefore urged the impacted communities to own the project and collaborate with the contractors and HYPREP for smooth remediation of the impacted sites, noting that the HYPREP project belongs to the people of Ogoni. In his words 'the remediation and restoration project of HYPREP in Ogoniland is people centered. It is about the people. If the people are not happy then we have no business going to Ogoni.'

The Director, Technical Services, HYPREP, Professor Philip Shekwolo said it is the expectation of HYPREP that the communities collaborate with the project and its contractors for a cordial working relationship which is

the essence of the document review and added that the documents will address the questions, aspirations, and perceptions of the people of Ogoni.

On his part, Mene Stephen Kpea, a member of CRAC who doubles as the Paramount ruler of Mogho community commended HYPREP on convoking the meeting and noted that the session will educate parties on their rights and responsibilities and serves as a guide to the communities and contractors.

A member of ZRC, Engr. Lucky Nwafor in his goodwill message enjoined HYPREP to integrate the Ogoni communities in its programmes and activities to avoid conflict as well

as give priority to local content in project execution.

Paramount Ruler of Biara community, HRH Barisi Kpama in his submission implored HYPREP to engage constantly with the communities, re-orientate them for enhanced collaboration for better results.

The Paramount Ruler of Ogale community and member of the Board of Trustees of HYPREP, HRH Bebe Okpabi, urged HYPREP contractors to develop a well-articulated Corporate Social Responsibility Policy that captures projects that will benefit their communities and execute them in the course of their contracts.

The Spokesperson of CRAC, HRM Mene Dr. Suanu Baridam appealed to the Management of HYPREP to constantly build the capacity of members of CRAC and ZRC to enable them function optimally in their duties. Goodwill messages were also given by the Gbenemene Ken-Khana, HRM Barile Deebom and other traditional rulers present.

The reviewed community engagement document provides a framework for delivering direct economic benefits from HYPREP's operations to impacted communities. It further aims to improve peaceful coexistence between host communities and HYPREP contractors.

SDN PLEDGES SUSTAINED SUPPORT FOR OGONI CLEAN-UP

The leadership of the Stakeholder Democracy Network (SDN) has pledged its continuous support for the Hydrocarbon Pollution Remediation Project (HYPREP) towards the attainment of its mandate of remediating oil polluted sites in Ogoniland and the provision of alternative livelihood for impacted communities.

The non-governmental organization made this position known at roundtable meeting held in Port Harcourt with HYPREP, Civil Society Organizations, Ogoni communities

and other stakeholders of the project.

The Assistant General Senior Project Officer, Environment, Stakeholder Democracy Network, Jude Samuelson while giving an overview of the partnership SDN has had over the years with HYPREP promised to sustain it for the overall delivery of corporate goals to the Ogoni community.

"It is an opportunity for all of us to chart the way forward, listen to where we have been getting it right. Where HYPREP as a body has been getting it right and the lapses and what we can

do to support. The recommendations we can offer so that the progress can continue. We also know that regulation of the clean-up exercise is key and thank God NOSDRA is here. So, we can also offer technical and other kinds of recommendation so that the clean-up exercise is well regulated, while the communities assure also support for the project to ensure uninterrupted exercise."

Samuelson stated that the objective of the meeting was to guide the cleanup project along the path of best practice and adherence to the

recommendations of UNEP and the standards set by industry regulators. "It is a gathering of stakeholders to discuss the progress of the Ogoni cleanup exercise and the way forward. It is a gathering for respectful dialogue. SDN and CEHRD have been leading other CSO's to monitor the cleanup exercise independently right from the commencement of the project and we convene this stakeholders' engagement to discuss our findings, to present recommendations and it is a platform where communities can also raise concerns where HYPREP and NOSDRA can listen to them and also respond. It is also a platform where we listen to respectful recommendations and the goal is for the progress of the cleanup exercise in line with the UNEP recommendations. So, we are here to promote best practice and of course we know how the environment of Ogoni land is polluted, likewise other parts of Niger Delta. Of course, everybody in Niger Delta is conscious about the level of pollution and the Ogoni cleanup exercise is the first of its kind in this part of the world and we want to utilize all the opportunities to ensure that it is implemented to standard so that it can serve as a template for the cleanup of the entire Niger Delta."

The Programme Officer in charge of Environmental Governance, Meshack Uyi who represented the Project Coordinator of the Centre for Environment, Human Rights and Development (CEHRD), Dr. Francis Nabie stated that CSO's have a stake in the clean-up of Ogoniland and therefore their responsibility to monitor the entire exercise that it goes according to laid down procedures.

"We all know that our gathering here is for the benefit of our community especially Ogoni regarding the cleanup that is ongoing. We have a working document which is the key performance index which is our barometer in measuring the work HYPREP is actually doing including

us and communities because communities also have a part in that process while we are actually monitoring the activities of HYPREP. We are also monitoring the activities of communities and us as CSO's."

Ukpenevi Solomon who represented the Zonal Director of the National Oil Spill Detection and Response Agency (NOSDRA), Imeh Ekanem said NOSDRA has been a part of the success story of the Ogoni clean-up from the beginning.

"The recent transition in leadership not withstanding has not deterred the progress rather it has added more rapid acceleration to the progress of this engine. I have been very much part of the Bodo cleanup, so I know Professor Zabbey quite well. He is a round peg in a round hole, so we know that everything in the UNEP report is going to be achieved under his tenure. We have great confidence in him. NOSDRA is always there with HYPREP. We are together, we regulate the progress of the work, so you can always count on us. The communities should have no fear at all, everything going on is for the benefit of the Ogoni people and by the grace of God we are getting there. Regulatory bodies, HYPREP, CSO's,

communities will form one strong bond."

The Paramount Ruler of Bera Community, His Royal Highness, Mene Magnus Adumene applauded HYPREP for the work it is doing in his community and called on communities of Ogoni to give the project the needed conducive environment to operate to deliver on its mandate to the people.

"I am speaking from the angle of the communities. Bera community is a beneficiary of HYPREP programmes and the community has a lot of expectations from HYPREP, the government and the cleanup exercise and we are ready to partner with HYPREP on the cleanup that is ongoing. We are also ready to work with HYPREP to ensure that this project is successful and as a community, in respect of our various interest, we must ensure that the programmes are successful by all means and we are happy also that programmes like this is set up to hear from us about the cleanup to know where we ought to participate. We are actually moving forward. We know that some communities and other stakeholders might not be happy with the way things are going but we



Participants at the SDN Roundtable

believe that HYPREP is taking note of that, and they are addressing such issues to ensure that the project is successful."

Head of Remediation, HYPREP, Raphael Saue who represented the Project Coordinator, Professor Nenibarini Zabbey at the event outlined the achievements of HYPREP in the area of remediation.

"The phase 1 of the environmental remediation is basically soil remediation. Phase 2 is including soil and ground water remediation. Phase 1 is on 12 sites, 21 LOTS in the first batch and 8 sites 29 LOTS in the second batch. Besides that, we have tier 2 assessment for some other sites that gave us concerns which we allotted into 7 LOTS. Then our phase 2 as I said earlier, for soil and ground water, we have 17 sites which we have 39 LOTS and that is across 11 communities in the 4 Local Government Areas. Then we have sites which have low to insignificant risk, which our stakeholders and regulators have closed about 13 of them. So, all these sites we are mentioning here are the sites with UNEP fact sheets which we use as our starting point because we have other areas or sites in other locations where they were incidences after UNEP left or after UNEP finished their investigation in 2010 or where they did not get to that we have also started works on them. Those were in our report sheet in our earlier meeting, but they are not significantly in this now because between January and now, we have not proceeded works on those sites and so for those who have sites that we don't mention or sites that we have not worked and we are not counting in this group, it doesn't mean we are not aware, or we have not done anything."

Saue disclosed that intense work would be done in the Phase 2 remediation where remediation work will cover both soil and groundwater where characterization and scoping have been carried out on some of the new sites and are being prepared for the Phase 2 remediation.

"In the phase 2 remediation, the scope of work includes the preliminary works, the site reassessment and characterization by the contractors. The main contract has two main stages, the contractors will do distinct site characterization and remediation of both soil and ground water unlike the first case where HYPREP did only soil remediation, and there will be soil excavation and treatment of impacted soil, ground water treatment, backfilling, and landscaping and

HYPREP COMMITTED TO CAPACITY DEVELOPMENT OF OGO NI WOMEN AND YOUTHS – PROF. ZABBEY

The Project Coordinator of HYPREP, Professor Nenibarini Zabbey says his administration will continue to initiate and sustain personal development programmes that will offer better economic opportunities for youths and women which are essential for addressing gender inequality and improving the livelihoods of youths and women of Ogoni communities.

Professor Zabbey stated this at a two-day regional strategy meeting tagged, 'National Roundtable on HYPREP' convened by Celestine Akpobari of the People Advancement Centre in Port Harcourt, the Rivers State capital. He disclosed that he has put in place policies and structures that will guarantee youth and women inclusiveness in the programmes and activities of HYPREP.

"Since I assumed office in May this year, I have been putting in place a framework for sustainability, effective monitoring and evaluation, inclusion, community engagement, and Standard Operating Procedures so that HYPREP activities will be sustainable, inclusive, and people centric. I have also created a desk for youth and women's development."

Zabbey further stated that HYPREP had written to communities where remediation works are to start soon to produce a list of community workers to be engaged by the contractors handling the projects.

"A framework is being put in place for inclusion as this administration is keen on seeing a gender-inclusive

regulatory close out processes and HYPREP will also do an independent post regulatory close out and certification, monitoring processes across board."

HYPREP had so far awarded remediation contracts for phase 1, batches 1 and 2 and it is currently moving into the field for the Phase 2 remediation of oil contaminated sites across the four Local Government Areas of Ogoniland.

workforce. To achieve this, HYPREP has written to communities to submit a list of workers that will have a ratio of 60 to 40 percent of the workforce, to ensure that the gaps observed by Ogoni people and civil society organizations are addressed holistically."

The Project Coordinator maintained that in the coming weeks it would be a beehive of activities taking place concurrently in Ogoniland on 39 remediation medium-risk lots, 34 shoreline clean-up sites, 9 lots for mangrove planting in Bomu community, 38 livelihood training schemes, the Ogoni Power Project, Ogoni Specialist Hospital, and the Centre of Excellence for Environmental Restoration. He said that HYPREP has been holding deep-dive sessions with its technical partners to have fit-for-purpose projects.

Zabbey announced that the project is gradually migrating from a kinetic approach of security to a non-kinetic approach and had therefore trained five hundred Ogoni youths who are being deployed to serve as environmental vanguards on project sites.

"We have trained and deployed 500 youths that will serve as civil security, supporting the clean-up sites and supporting our facilities in Ogoniland because now, we are migrating from a kinetic approach to security to a non-kinetic approach. We want the local



report is the way to address the devastation of the Ogoni environment.

“Be assured that CSOs will always keep you on your toes until we all succeed and make a difference. This is not a time for speeches but for actions.”

Former President of the Movement for the Survival of the Ogoni People (MOSOP) and former member of the HYPREP Governing Council, Comrade Legborsi Pyagbara assured HYPREP of the support of the Ogoni people in the implementation of the UNEP report.

Equally, Madam Emem Okon, an alternate member of the HYPREP Governing Council commended the Project Coordinator on commencing his administration with a mindset of running an inclusive implementation of the Ogoni clean-up project and urged him to continue in that direction for the overall benefit of the people of Ogoni.

The two-day event had in attendance over twenty Civil Society Organizations, who made critical recommendations on how HYPREP can fully implement the UNEP Report.

people; we want people to own every facet of the Ogoni clean-up.”

Professor Zabbey urged the Civil Society Organizations (CSOs) to collaborate with HYPREP and set up advocacy programmes against oil theft and illegal oil refining as it is key to the successful implementation of the HYPREP project.

“I will urge all of you comrades to develop your programmes around the issues of oil theft and artisanal refining. We are going to do our sensitization, but it will not be enough. We need your independent investment in that area because you represent the communities. Continue to monitor what we are doing in Ogoniland, engage continuously with us, and

ensure the correct thing is done.”

Earlier in his welcome address, Mr. Celestine Akpobari of the Peoples Advancement Centre, clarified that the essence of convoking the workshop was to put the new leadership of HYPREP on its toes and for it to focus on the core mandate of HYPREP which is the holistic implementation of the UNEP Report.

Also speaking at the workshop, the Executive Director, Environmental Rights Action/Friends of the Earth Nigeria, Barr. Chima Williams, said that CSOs are interested in the activities of HYPREP and will ensure that the UNEP Report is implemented to international standards. He added that the full implementation of the

HYPREP PLANS LARGE-SCALE MANGROVE RESTORATION

In keeping with its mandate of remediating and restoring oil impacted sites in Ogoniland, the Management of the Hydrocarbon Pollution Remediation Project (HYPREP) says it will improve on the achievements of the Bodo Mediation Initiative (BMI) in the clean-up of Ogoni shorelines and mangrove revegetation.

The Project Coordinator of HYPREP, Professor Nenibarini Zabbey made the promise when he led a combined team of HYPREP and the United Nations Environment Programme (UNEP) officials on a field visit to Bodo to inspect the mangroves planted by the BMI project and collect data to strengthen the shoreline work of HYPREP that is coming up shortly.

Professor Zabbey stated that the remediation of the coastlines will climax with the planting of mangrove seedlings to fully restore the ecosystem in the intertidal areas that HYPREP has awarded contracts for their clean-up.

“Well, today's trip is very vital to the work of HYPREP because mangrove restoration is a key component. We are not just doing cleanup. We are doing cleanup, remediation and restoration, and restoration is the tip of it. So, Planting of mangroves is very key. It's a crucial component of our work. We have awarded contract for 34 LOTS of shorelines for cleanup, and after that we are going to plant mangroves. At the same time, we are piloting

mangrove revegetation in Bomu concurrently with the shoreline cleanup. So, today's exercise is basically to help us access the performance rate of mangroves, about 350,000 mangrove seedlings that the Bodo Mediation Initiative (BMI) planted in the Bodo Creeks. The data we collected today and we're going to collect tomorrow will be very useful in strengthening the mangrove restoration intervention of HYPREP.” Professor Zabbey expressed admiration at the survival rate of the mangrove seedlings planted by the Bodo Mediation Initiative and promised to improve on what the BMI has done.

“Well, the success rate or the



Prof. Zabbey pointing to remains of a dead mangrove, while Prof. Olof, Prof. Fakae and other officials watch on

performance rate of the planted mangroves, I think it is okay. It is excellent, but we are going to improve on that. We are going to adopt what we call ecological mimicry. So, we will mimic a natural vegetation pattern in this area. So, we are not just going to plant red mangroves as the BMI did, we are going to plant the black mangrove and the white mangrove by adopting their natural zonation pattern in this environment so that would be an improvement. Again, most mangrove restoration projects around the world including the one of the BMI, adopted a distance of 2 meters apart between the seedlings. In our manual, the manual that HYPREP is going to use, we recommended 1.3 to 1.5 meter apart because it will help natural recolonization, because the closer the planted mangrove seedlings, the more the possibility of stranding of natural seedlings.”

He said to make the restoration work easier and one that conforms to standards, HYPREP is developing a field manual for mangrove revegetation.

“Incidentally, Professor Olof and I developed a Mangrove Restoration Manual for HYPREP on behalf of UNEP last year and now we are producing a field version of that manual. So, the data we are collecting, will also fit into that manual so that our mangrove restoration intervention will be fit for purpose. We feel that

what HYPREP will do should be an improvement on the Bodo Mediation Initiative, mangrove restoration, because it's a learning curve. So, the lessons learnt on this particular project will help to strengthen our own intervention. So, in the coming months HYPREP is going to plant between 7.5 million and 10 million mangrove seedlings along the shorelines of Ogoni land.”

Zabbey maintained that the clean-up of Ogoniland being undertaken by HYPREP is strengthened by the triple expertise of UNEP, the Shell Petroleum Development Company (SPDC), and HYPREP and that will greatly enhance the delivery of the project.

“Well, UNEP has always been a technical partner to HYPREP and up till date they are providing technical

support. So, you know, they have experts, we also have experts, SPDC have experts. We are pulling all our strength, all our knowledge together to drive the HYPREP project. So, I think their involvement is a plus to what HYPREP is doing.”

Olof Linden - a Professor of Marine Environmental Science from the World Maritime University who represented UNEP on the field trip observed that most of the mangrove seedlings planted by the BMI are doing well with low rate of re-oiling which may have contributed to the survival rate of the mangroves.

“I don't think we saw new re-oiling. No significant re-oiling. We saw a sheen somewhere but no major oiling. We saw occasional dead mangroves, but we did not see extensive mangrove mortality. It seems that those that had been planted, at least on the sites that we visited and on the sites that we passed by and had a chance to look at are growing well.”

The team also visited Gio in Tai Local Government Area to carry out a shoreline assessment of the oil impacted intertidal area of the community. Other UNEP officials who were on the trip include, Professor Barineme Fakae and Professor Iyenemi Kakulu and the Director, Technical Services, HYPREP, Professor Philip Shekwolo among others.



Site Supervisors collecting data

Facts About HYPREP

TECHNIQUE OPTIONS FOR REMEDICATION OF SOIL AND GROUNDWATER AT MEDIUM RISK SITES.

*Being Excerpts Of A Slide
Presentation By: Prof. Philip D.
Shekwolo, Director, Technical
Services, HYPREP*

OBJECTIVES FOR GROUNDWATER REMEDIATION OPTIONS

The objectives are:

- a. To provide guidance to the contractors on the need to consider the soil type in the choice of remediation method.
- b. To understand that the main purpose of remediation is to add value to the net environmental benefit and not to cause more harm by the wrong actions taken.
- c. Contractors should note that change of remediation techniques will not be a justification of demand of increase of contract price.

Low risk sites, also known as "Simple Sites" are sites located beyond 500 meters from human habitations. Remediation of this category of sites were undertaken in phase 1 batches 1 & 2 of HYPREP remediation programme. The activities involved bioremediation of hydrocarbon contaminated soil and removal of floating hydrocarbon product, referred to as Light Non Aqueous Phase Liquids (LNAPL). Experiences and lessons learnt during the execution process is what informed this write up. For example, the soil type at Alode in Eleme region and that of Okulebu in the same Eleme region are completely different in composition. The bioremediation process by landfarming was applied at both sites. While the Alode soil is loamy and rich in humus, that of Okulebu is lateritic and plastic. We

observed that post remediation recovery of vegetation cover was fast in Alode but was very slow and inadequate at Okulebu, and the difference is a reflection of the difference in the soil type.

SOIL AND GROUNDWATER REMEDICATION OPTIONS

-Groundwater remediation is a complex process the world over. The success of any technology depends on the clear understanding of the hydrogeology and physical properties of the soil in the vadose and saturated zones.

-Objectives of Groundwater Remediation at Moderate Risk Sites or Semi-Complex Sites.

- To remove free phase product from the surface of groundwater table: This is possible with careful coordinated interface plan amongst contractors at adjoining lots.

-Reduce concentration of the dissolved hydrocarbon phase product in the groundwater to environmental compliance level of 600 ug/l.

-Reduce the hydrocarbon adsorbed phase on the soil to risk-based level of 1000mg/kg.

TECHNOLOGY SELECTION CRITERIA

Technology selection should be based on technical and environmental criteria. The criteria include:

-Compatibility of the chosen technology with the site Geologic and Hydrogeologic settings, such as the low hydraulic conductivity and gentle hydraulic gradient and depth to groundwater table.

-Performance, which is the efficacy of meeting the stated objectives.

-Expected time to closure; Closure being when set targets are met.

-Ease of implementation and operation of the chosen method.

Reliability of the method.

-Final method selection is a collective decision by contractor and HYPREP, because HYPREP has more technical information of the sites than the contractor and therefore need to guide contractors on the choice of method that will achieve net environmental

benefit.

GEOLOGY AND HYDROGEOLOGIC SETTINGS

• The top soil in places is composed of lateritic sand to loamy silt and is usually underlain by clayey silt and/or fine sand intercalations. The top soil and the underlying layer form the vadose zone. The hydraulic conductivity is usually low and reduces further with increase in clay content of the soil mass.

Groundwater table fluctuates during rainy and dry seasons. The fluctuation creates a smear zone at contaminated sites between the depth of fluctuation in the aquifer.

The depth to groundwater table varies from place to place. It is shallower at low land and swampy areas and deeper at upland terrains. It varies from 2m to 10m below ground level in Ogoniland.

TRENCH ENHANCED RECOVERY (TER) AND AERATION TECHNIQUE

Trench Enhanced Recovery (TER) technique is the process of recovery of free phase product from excavated trenches by skimming or manual bailing. Aeration, which is a form of bioventing, is the introduction of air from an air compressor into the groundwater in the trench via air hose and perforated pipe, in order to promote aerobic biodegradation of dissolved phase hydrocarbon. The excavated soil from the trench is remediated in an engineered bio cell. Free phase product in the surrounding mass of soil both in the unsaturated capillary zone and saturated zone, can be forcefully released into the trench for recovery by introduction of compressed air and bio nutrient through strategically placed boreholes at the upgradient side of the trench. This is also a form of bioventing or bio slurping. It is very imperative that the direction of groundwater flow and hydraulic gradient be determined. With combined use of trenching and bioventing processes, the technique becomes a hybrid of both ex-situ and in-situ bioremediation.

CONFIGURATION OF

RECOVERY TRENCHES

Equipment required include: an air compressor with power pack and air hose, air delivery pipe, river containment booms, oil skimmer with diesel driven power pack, GP storage tank, pH and DO probes. Groundwater samples shall be taken periodically to determine the biodegradation rate of the hydrocarbon compound of interest and other parameters: TPH, BTEX, Hydrocarbon Utilizing Bacteria, Dissolved Oxygen.

VACUUM ENHANCED RECOVERY (VER) – PUMP AND TREAT TECHNOLOGY

Vacuum Enhanced Recovery (VER) is a process that promotes movement of NAPLS by induced pressure differentials without requiring pumping of large volumes of groundwater as in a conventional

pump and treat system. The system consists of the installation of 3-inch diameter extraction wells and injection wells in an articulated configuration array. The extraction wells are connected to liquid ring pumps, each, with associated control and treatment units. In a very conductive materials, well spacing is about 7.5m, but in a poor conductive material, such as clay rich soil, the intervals will be much smaller – reduced to about 3m to 4m. The injection wells are located up-gradient of the extraction wells. The time required to clean the groundwater over three (3) hectares of land may not be less than 10 to 15 years.

MANAGEMENT OF RECOVERED FREE PHASE PRODUCT

Record of volume of product

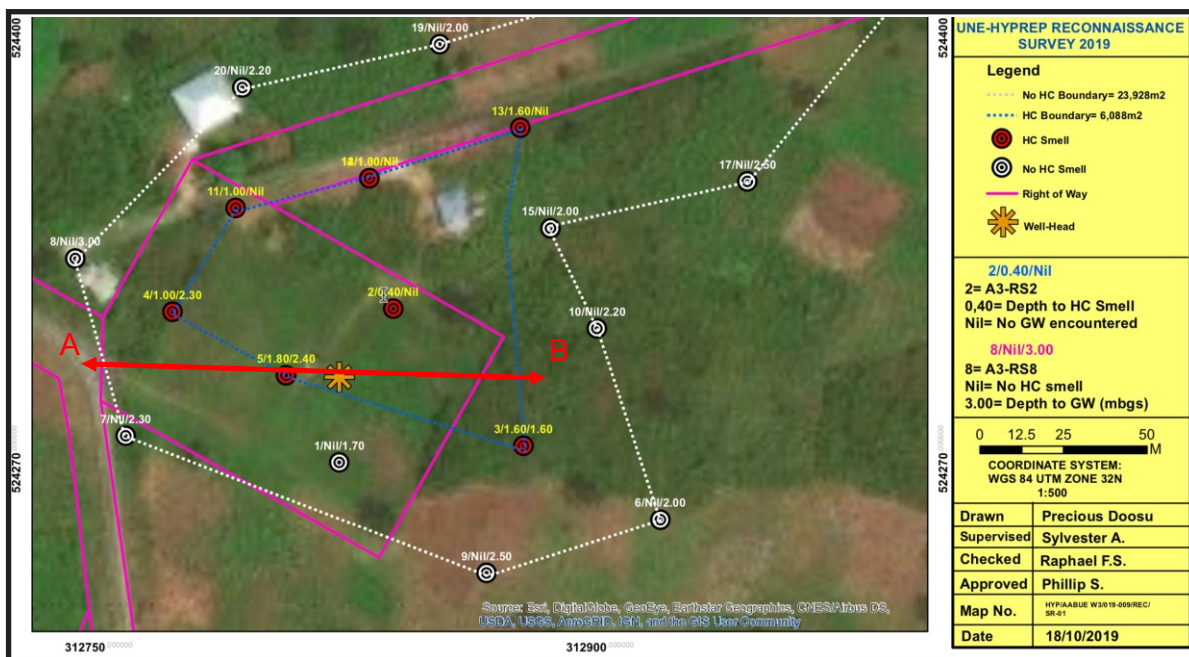
recovered shall be kept by the contractor.

Prior to evacuation from site, all recovered free phase product shall be temporarily stored in GP tanks or in suitable oil storage containers and firmly covered.

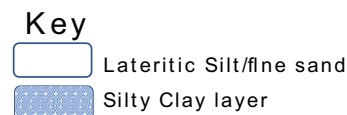
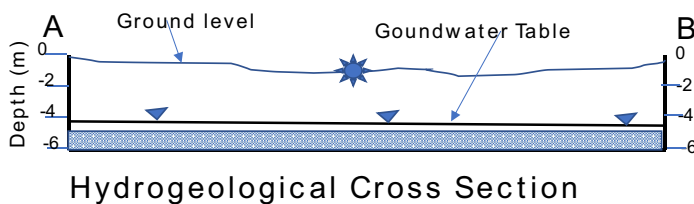
The quality of the product shall be examined by the Asset owner (SDPC or NPSC) to decide whether or not to collect for use or reinjection at their flow stations.

In event that the quality is found to be suitable for use, it will be taken over by the Asset owner, but if not, it will be disposed at a thermal plant by the contractor as stated in the bill of quantities.

Waste manifest shall be kept by the contractor in all cases.



Site Layout.



PICTURES OF THE MONTH



L-R: Dr. Nwielaghi, Ibrahim Yusufu, Prof. Zabbey, HRM Mene Baridam, HRH Mene Kabari Arrive Barako Water Station



HRM Bebe Okpabe flanked by Paul Ugbaha (L) and Gwong Ichibor at HYPREP Forum on Contract Administration



Cross Section of Royal Fathers during HYPREP Sites Handover to Contractors at Sakpenwa



Cross Section of Participants during HYPREP Sites Handover to Contractors at Sakpenwa



Director, Technical Services, HYPREP, Prof. Philip Shekwolo



Group Photograph of HYPREP and UNEP Teams



Prof. Olof (M) with HYPREP Cameraman, Tombari Naadue (L) and UNEP Staff, Leo Esenwa (R)



L-R: Prof. Kakulu, Prof. Zabbey, Prof. Olof during a Toolbox Session



THE ENVIRONMENT ON MARBLE

"A true conservationist is a man who knows that the world is not given by his fathers but borrowed from his children."

– *John James Audubon*

Remediated Land

Photo:HYPREP

... for a cleaner and greener Ogoniland

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