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| **PROJECT CHARTER** | |
| **Project Name** | Borno Ruwa Project |
| **Date Produced** | 5th October 2024 |
| **Project Goals** | This project involves the development of a water purification system with a wastewater recycling subsystem. The proposed site location will be along Bama Road, Maiduguri City in Borno state. This project covers the collection of wastewater and raw water from only two sources within the state which are the River Ngadda which is 74km away from the site location and the one centralized sewage system in Maiduguri. The clean water produced will be collected through the existing water distribution system in Maiduguri city in Borno State.  The project goal will be achieved and support the below outcomes:   * The development of a water purification system in Maiduguri with high level water production capacity to increase the accessibility to clean water and sanitation funded by the World Health Organization (WHO). * The development of a recycling system to ensure the reduction of water pollution by approximately 50% in Borno state. * The development of system to check the quality of water produced is in accordance to World Health Organization-approved standard of 6.5 - 8.5 pH level. * The development of an educational program with easy accessibility and navigation which will educate and increase awareness of the need for sanitation and safe hygiene practices within the various communities of Borno State. * Acquisition of more Contract Agreements with the Nigerian government to implement more water purification plants in other states of Nigeria to promote the Sustainable Development Goals (SDG). |
| **Project Objectives** | The below are the main project objectives to achieve the above mentioned project goals respectively by 30th July 2027:   * To design and build a state-of-the-art water purification plant with a water production capacity of 75,000 litres per hour. * To design and construct a wastewater subsystem in the water plant system to recycle wastewater from the two sources (centralized Maiduguri sewage system and River Ngadda) that provides approximately 100 litres of wastewater per second to the water plant. * To build a PH meter device that measures the alkalinity and acidity level of the water purified in the water purification plant. * To build an Information Technology (I.T) platform with interactive software features that delivers training on improving safe hygiene practices. * Build a social media website for publications and conduct advertising campaigns about the project's objectives and benefits. |
| **Project Budget** | $2,500,000 |
| **Project Sponsor** | Dr. Maria Neira: - Director of WHO Department of Environment, Climate Change and Health. |
| **Project Manager** | Infant Nishant Anto |
| **Additional Key Project Stakeholders** | |
| The additional Key Project Stakeholders are: Rob Obertreis:Project Co-ordinator.Dr. Tedros Adhanom Ghebreyesus: Director-General of WHO.Engr. Dr. Mohammed Musa Aliyu: General Manager of Borno State Rural Water Supply and Sanitation Agency.Engineer Adam Bababe: Executive Secretary of the Borno Geographic Information Service (BOGIS).Bruce Gordon: Coordinator for Water, Sanitation, Hygiene, and Health at WHO. | |
| **Project Milestone Dates** | |
| The below illustrates the overall key milestones and dates for the project completion within the three years schedule. | |
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| **Project Risks** | |
| The below are the project risks (event) stated in relation to the causes and the effects:   1. As a result of political instability within the Nigerian government the land officials might be absent from office resulting in delays in land permit approval. 2. Due to the continuous instability of political affairs in Nigeria, there might be a rise in inflation which will lead to higher costs of materials impacting on the allocated resource estimates. 3. As a result of shortage of power in Nigeria, there will be a disruption in carrying out the testing process which will impact on the testing phase completion date. 4. As a result of storing the construction materials at the site location, local residents in the community may steal the materials leading to incurring more costs by repurchasing materials. 5. As a result of not paying the workers on time, the workers might conduct a protest which would lead to the delay of the construction phase completion. | |
| **Project Inclusions** | |
| The below are the project inclusions:   1. **Installation of some Pipes**: This project will include the installation of a pipe to intercept wastewater from the Maiduguri centralized sewage system and the installation of an 800 mm diameter pipe with a total length of 14 km to the water plant location to intercept raw water from the River Ngadda flowing from Lake Chad in Maiduguri City to flow into the water plant for recycle and purification. 2. **Installation of Solar Panels**: This project will include installing solar panels to ensure additional power supply is available to connect to the water purification plants to prevent any disruption of project phases such as all mechanical and electrical checks, fixings and testing phases of the project. 3. **Back-up Generators**: This project includes the purchase of generators to serve as backup in situations where the solar panel and the primary electrical supply is down or insufficient to supply the water plant during all the component fixing and testing process to ensure the water plant components are working properly. 4. **Alarm Systems**: This project will include the installation of alarm systems around the plant to detect any hazardous event such as smoke from electrical connections or fire breakout during the construction and testing phase. 5. **Water Plant System Manual:** This project includes the creation of a manual that includes all the functions of all the different components of the water plant system, so as to ensure the proper usage of the water plant system and required steps are followed, irrespective of who is handling the water plant after the project is completed. | |
| **Project Exclusions** | |
| The Project Exclusions are:   1. **Installation of a complete pipeline system:** This project does not cover the installation of a pipeline system that distributes clean water to the community's households and collects sewage from each household to the state sewer system. 2. **Water Plant Maintenance**: This project does not cover the servicing and maintenance of the purification plant after the construction and testing is completed and handed over to the Nigerian Authorities. 3. **Purchase of Land**: This project does not include payment for the site location for the water plant construction. The selection of the land will be done by the project team, but the land will be acquired from the Nigerian government through the free land allocation scheme for non-profit organization projects hence no payment will be made. 4. **Multiple Sources of Wastewater**: This project does not include the collection of wastewater from various sources within the state as the source of collection is limited to the two sources (the centralized Maiduguri sewage system and River Ngadda) from which the wastewater will be recycled from. | |
| **Project Assumptions** | |
| This project is being carried out on the basis that the below attributes are in place and existence:   1. **Functional Electricity Tower**: The city of Maiduguri has a functional electricity tower that can transmit the power supply which will be the primary source of power supply to the water plant in order to carry out the construction. 2. **Water distribution System**: The city of Maiduguri has a functional water distribution system that is connected to all buildings within the community, which will be capable of distributing the clean water produced from the plant to the community. 3. **Community Compliance**: The community residents will comply with the construction of the water plant along Bama Road in Maiduguri and not cause any disruption during the construction phase of the water purification system. 4. **Transportation Via Road:** The city of Maiduguri has road connectivity to the site location for the construction of water purification plant which can enable feasible transportation of resources via road. | |
| **Project Constraints** | |
| The project is limited to be carried out with the below factors:   1. **Sources of Wastewater**: The wastewater to be recycled would only be collected from two sources which are from River Ngadda and the Maiduguri centralized sewage system in Borno State. 2. **Location of Water Plant Construction Site**: The water purification plant with wastewater subsystem will be built within one city with the site location along Bama Road, Maiduguri city in Borno State. 3. **Project Schedule**: The project is to be executed and completed in three years from the project approval date. 4. **Project Budget:** The project is to be executed and completed with the allocated budget of $ 2,500,000. | |