INFORMATION SHEET

SUPPORT FOR DATA COLLECTION AND IMPROVING DATA FOR DECISION MAKING IN NIGERIA

NIGERIA Erosion and Watershed Management Project (NEWMAP) aimed at reducing vulnerability to soil erosion in targeted sub-watersheds by: (a) investing in the public environmental goods; (b) improving institutional performance, governance, multisector coordination and information access; and (c) by establishing replicable investment models and institutional solutions that can be scaled up inside and outside the project. Essentially, the NEWMAP project is an 8-year multi-sectoral and multi-scale project whose basic components are: (1) Erosion and Watershed Management Infrastructure Investments; (2) Erosion and Watershed Management Institutions and Information Services; (3) Climate Change Response; and (4) Project Management.

Dr Toshiro with staff of AIRBDA, NEWMAP at the FUTO Owerri Automatic Weather Station

The objective Component 2 is to address longer-term sustainability of addressing erosion and watershed problems by strengthening the enabling environment to address these problems and disaster risk reduction in a comprehensive manner across sectors and states. The component therefore contributes to a number of outcomes centered on enhanced capacities, modernization and coordination of the many institutions involved in planning, management, assessment, enforcement, and monitoring of watershed and erosion related activities and disaster risk management, from sub-watershed to basin scales. To reinforce good design and prioritization ofInvestments under component 1, this component also helps to enhance the regulatory environment, data modernization and openness, design and construction standards, development and application of analytical and monitoring tools, and diagnoses

GLOBAL CLIMATE CHANGE FUND · THE WORLD BANK · SCCF Special Climate Change Fund

Installed manual River gauges in Itu LGA of CRBDA

Installed automatic hydrological station in the AIRBDA

Installed Automatic Flood Early Warning System (AFEWS) in Oron, CRBDA

of watershed problems.

Activities.

This component has financed goods, equipment, and consultant services, as well as small works, for the following activities, organized into four sub-components:

A. Federal MDAs: (i) Strengthened regulatory capacity of key environmental and disaster response institutions; (ii) strengthened information and monitoring services and tools including Hydro and Met system, integrated in a state-of-the-art erosion monitoring and landslide risk early warning system, (iii) built a network of erosion and watershed management knowledge resource; with (iv) basin and watershed planning tools, while (v) it has provided tools and a platform that could help the government make changes in the way in which federal roads' cross drainage is regulated, designed, approved, budgeted, constructed and maintained, with a view to reducing gully formation. (linked with state efforts below).

B. Component 2 A supports (activity set 2.A.6) Basin and Watershed Planning. The component addresses the development of hydro-meteorological systems for measuring weather parameters, river flows, sediment loads, water quality, and quantity and groundwater conditions using both standard and advanced methods and techniques.

The component also addresses data collection, analysis and sharing procedures and training and capacity building needs for federal and state agencies.

The support includes enhancement of river basins operations, that commenced with the Anambra-Imo and Cross Rivers basins (and link to their smaller scale watershed and sub-watershed planning) in the NEWMAP focus states, to improve land and water management and reduce erosion. This activity was linked to and coordinated with: (i) Cross River basin development planning supported by the EU at the Cross River Basin Authority; (ii) JICA support to NIWRMC to review and update the National Water Resources Master Plan; and (iii) a new WB project under preparation on Irrigation and Water Resources in northern Nigeria.

The NEWMAP Support approach Nigeria Hydrological Services Agency (NIHSA) is the lead Agency for the Hydromet System (Sub-Component 2) of NEWMAP. Other participating Agencies are Nigerian Meteorological Agency (NiMet) and the Nigeria Integrated Water Resources Management Commission (NIWRMC).

The objective of the NEWMAP Hydromet System Sub-Component 2 is to strengthen the hydromet system in the Anambra-Imo River Basin Development Authority (AIRBDA) and Cross-River Basin Development Authority (CRBDA) and to enhance the capacity of the Basins to meet the need for reliable data and information on

surface and underground water, water quality and sediment loads in rivers, weather related information and Early Flood Warning System Services and to build resilience towards climate change effect.

Under this project, a total of sixty-one (61Nos.) Hydro-meteorological stations has been rehabilitated and installed and seven (7Nos.) groundwater monitoring wells will be installed/rehabilitated and reconstructed in the two Basins. This will be supplemented by the establishment of three Control Rooms (at AIRBDA, CR-RBDA and NIHSA) with a Hydrological modeling center at NIHSA headquarters to be complimented with capacity building and training of key personnel staff.

The distribution of installed equipment's across the two Basins are as follows: 7-Automatic Weather Observation Systems (AWOS); 12-Agromet systems; and;39-Manual and automatic hydrological stations for surface water monitoring,while Installation of 3No. Telemetry systems (Data Collection Platforms, DCPs) for flood monitoring and flood forecasting is-ongoing.

Typical sensor for automatic hydrological stations

Installed Automatic Flood Early Warning System (AFEWS) in Umueze – Anam Anambra State

Achievements:

Installation and testing of 3-Telemetry systems (Data Collection Platforms, DCPs) for flood monitoring. NEWMAP has supported the installation of 61 hydrological and meteorological stations across Anambra-Imo River Basin Authority and Cross-River Basin Devel opment Authority. This is leading to t h e provision of information services, strengthening the enabling environment and investment planning; NEWMAP has also completed the installation of 10 Automated Flood Early Warning System (AFEWS) across 5 RBDAs (Anambra Imo River Basin Development Authority, Niger Delta River Basin Development Authority, Cross River Basin Development Authority, Upper Benue River Basin Development Authority and Sokoto Rima River Basin Development Authority) on 10 river systems located in the States of: Delta, Anambra, Imo, Rivers, Akwa-Ibom, Cross-River, Sokoto, Kebbi, Adamawa and Taraba; Installation of the AFEWs became necessary so as to give early warning signal to residents living along the coastal plain and river corridors as the river stage

Training on deployment of ADCP for discharge measurement in Calabar, CRBDA

Installed Automatic weather station (AWS) in FUTO Owerri

Dr. Toshiro world bank watershed specialist inspecting speed boats at the AIRBDA

rises.

The system works such that data is transmitted via satellite and internet to a dedicated portal which can be accessed remotely at a programmed time interval. The 5 RBDAs now have functional AFEWS that are providing flood monitoring services. The river water level can now be monitored via the submerged PT2X sensor. Observational data can now be downloaded via satellite, SMS, E-mail or locally via USB directly onto the host computer. Users have also been trained on how to download data and perform first-line maintenance. Terms of Reference (ToR) for: i. Establishment of Control Rooms at the AIRBDA, CRBDA and NIHSA. ii. Establishment of Hydrological Modelling Center at NIHSA has been developed. The deliverables of this component is support for Data collection and improved Data for policy and decision making by the Nigeria government:

With the installed stations:

- NIHSA generates data on yearly basis for flood forecasting and then disseminate for the whole country, the flood outlook provides a predictionon flood risk areas;
- NIMET will also generates data from installed stations to predict seasonal rainfall for the entire country;
- Academic institutions such as FUTO use the information for their Weather Digest Bulletin which is produced quarterly;
- Consultants also use the data generated from hydrological stations for engineering studies and designs such a s dam, irrigation and water supply schemes etc.
- Publication of Hydrological Year Books by NIHSA, AIRBDA and CRBDA.
- Publication of Scientific Bulletins and News brief.
- Provision of data and information to stakeholders and end users.

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