



NEWMAP
Nigeria Erosion and Watershed
Management Project

INFORMATION SHEET



Support to Data Capture and
Improving Data for Decision
Making in Nigeria

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Making evidence based decisions regarding the environment, infrastructure and natural resources and their interaction with people requires accurate data. This becomes imperative because of the nature of weather and associated issues that could negatively impact on the livelihood and the environment. This is why NEWMAP project component 2 has been structured to strengthen the enabling environment for effective implementation of erosion and watershed management Institutions and Information Services: strengthening; i. Federal MDA effectiveness and services (2A), ii. State MDA effectiveness and services [2B], iii. Local Government capacity, (2C) and iv. Private sector capacity (2D).

Four Years on, the Project's investments became visible with installations of Hydro and weather equipments across the two pilot RB-DAs towards effective erosion and catchment management. This actions has evolved integrated system for data collection and sharing nationally. By taking an integrated approach, the sub-component addresses degradation of natural re- sources and biodiversity, erosion, landslide and flood risks, low agricultural productivity, water quantity and quality, as well as access to land and related resources.

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, starting with the An-



Complete weather station installed in FUTO

ambra-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 will be linked to and coordinated with: (i) on-going Cross River basin development planning supported by the EU at the Cross River Basin Authority; (ii) JICA support to NI-WRMC 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.



Installation and configuration of Data machine in Onna (Right)

Nigeria's river networks or systems are divided into eight (8) Hydrological Areas based on principal river systems and their drainage basins. A combination of the surface geology and morphological characteristics of these areas determine the response of the catchment system to input rainfall that is, in transforming it to stream flow, erosion and floods.

NEWMAP Hydrometric network of stations, among others, are designed to provide baseline data and information on the watershed, sediment yield, water stage and river flow characteristics using conventional and automated (Telemetric) equipment for water resources assessment and for erosion, flood and drought mitigation studies so as enable water related institutions meet their corporate socio-economic responsibility for the host communities.

The existing hydrological network density in the eighth (8) hydrological areas of the country as at 2010 in comparison with the WMO recommended network density for the country is tabulated below:

Hydrological Area (HA)	Catchment Area (Basin)	Area Coverage (Km2)	Existing Network Density per HA	WMO Recommended Minimum Network Density	
1	Niger-North	Sokoto-Rima	131,600	38	32
2	Niger-Central	Upper/Lower Niger	158,100	35	83
3	Upper Benue	Upper Benue	158,600	41	73
4	Lower Benue	Lower Benue	73,000	22	46
5	Niger-South	Anambra-Imo/ Niger Delta	53,900	31	51
6	Western Littoral	Ogun-Oshun /Benin-Owena	100,500	24	71
7	Eastern Littoral	Cross River/ Akwa- Ibom	59,800	15	26
8	Chad basin	Chad basin	188,000	31	100
Total			923,800	237	482

**The number of stations mentioned in the table above has been altered by the flood disasters of 2012, as many of them have been washed away and have to be replaced completely.*



College of Education Akampa
Installation of Stevenson screen



Ibu site: Stevenson Screen, Digital Soil Thermometer Wet/Dry Thermometer and Maximum/ Minimum Thermometer (NEWMAP)



Equation 1 installations at Enugu Station

Challenges Prior to NEWMAP Intervention

Nigeria is well drained by hinter land rivers system and two international rivers (River Niger and Benue) which drain about 65% of Nigeria land mass and contribute about 26% of the total surface water resources. The remaining 74% of water resources is generated from the local rivers.

Inadequate hydrological and meteorological network to monitor inflow and outflow from the catchment areas

Weak institutional framework and synergy and less investments in hydro-meteorological activities by the operators and decision makers;



Installations and training on Rain Guage at Itu /Cross River



Installations and training at college of education, Akampa: on cup counter Anemometer

**A GLANCE AT PHYSICAL PROCUREMENTS /INVESTMENTS BY NEWMAP
Installations of Hydromet and Automated Flood Early Warning Systems (AFEWS),**

Installation of 19 Meteorological station	Installation of 6 stations under AIRBDA has been completed. Remaining 13 stations under CRBDA to be completed by second week of December, 2016.
Installation of 39 Hydrological stations	Site identified and secured; installation awaiting recession of water level; to be completed by March, 2017.
Procurement and drilling of Ground water monitoring boreholes including installation of equipment (7 Nos.)	Equipment procured. ToR developed in consultation with NIHSA
Procurement and installation of 10 Automated Flood Early Warning System (AFEWS)	Civil works for the installation in Sokoto-Rima and Upper Benue Basins have reached 10% completion
Capacity Building and Institutional Strengthening on Watershed Management Activities	Ten (10) personnel of relevant MDAs (FMWR, RBDA, NIHSA and FPMU focal point have been trained on use of the Hydromet equipment)

Rehabilitation of Existing Hydrological Stations

A total of 24 existing hydrological stations are recommended for rehabilitation by NEWMAP in the two Basins. Among these 12 in AIRBDA and 12 in CRBDA. The stations are listed in table below. All installed equipments in these stations were found to be either vandalized, broken down and/or rusted. Currently works and installations of new equipment by NEWMAP have progressed appreciably, in these stations.

S/N	Name of Station	State	Monitoring Organization
1	Otamiri @ Nekede	Imo	AIRBDA, FUTO
2	Imo @ Umuna-Okigwe	Imo	AIRBDA
3	Njaba @ Okududo	Imo	AIRBDA
4	Imo @ Owerinta	Imo	AIRBDA, NIHSA
5	Igwu @ Ndi Ebe Abam	Abia	AIRBDA
6	Imo @ Umuopara	Abia	AIRBDA, NIHSA
7	Ivo @ Ishiagu	Ebonyi	AIRBDA
8	Ivo (Ezeiyaku) @ Akaeze	Ebonyi	AIRBDA
9	Ebonyi @ Ezillo	Ebonyi	AIRBDA, NIHSA
10	Anambra @ Ifite-Ogwari	Anambra	AIRBDA, NIHSA
11	Anambra @ Ogurugu	Enugu	AIRBDA
12	Anambra @ Umueze Anam/Oda	Anambra	AIRBDA, NIHSA
13	Abak	Akwa-Ibom	CRBDA, NIHSA
14	Kwa-Iboe @ Ekpene Ukpa Bridge	Akwa-Ibom	CRBDA
15	Kwa-Iboe @ Ibagwa	Akwa-Ibom	CRBDA
16	Cross River @ Itu	Cross-River	CRBDA, NIHSA
17	Kwa-Ibe @ Oniong		
	Akwa-Ibom	CRBDA, NIHSA	
18	Cross River @ Ikom	Cross-River	CRBDA, NIHSA
19	Ogoja	Cross-River	CRBDA
20	Obubra	Cross-River	CRBDA
21	Ijegu Yala	Cross-River	CRBDA
22	Aningeje	Cross-River	CRBDA
23	Adiabo	Cross-River	CRBDA
24	Atimbo	Cross-River	CRBDA

(NEW) Additional Hydrological Stations

NEWMAP commenced civil works and installations of equipment in the Fifteen (15) new hydrological stations in the Basins (listed in the table below). The choice of these locations for the new stations was based on the requirement for appropriate station density according to WHO guidelines and the need to have a good spread of the stations to ensure adequate coverage. Among these, eight (8) are within the Anambra-Imo River system, and seven (7) along the various Rivers that characterized the CRBDA system. The required equipment in each of the stations was determined based on the categorization of the station.

S/N	Name of Station	State	Monitoring Organization
1	Mba'a @ Inyishi	Imo	AIRBDA
2	Doo @ Umulokpa	Enugu	AIRBDA
3	Ivo @ Umunwanwa	Abia	AIRBDA
4	Otamiri @ FUTO	Imo	AIRBDA
5	Ivo @ Okpanku	Enugu	AIRBDA
6	Ivo @ Akpoha	Ebonyi	AIRBDA
7	Ebonyi @ Ehamufu	Enugu	AIRBDA
8	Ezu @ Igbariam (Nando bridge) Omor rd	Anambra	AIRBDA
9	Ikot Efanga Water Scheme	Cross-River	CRBDA
10	Cross River Water Resources Dam Ugboru in Bekwara LGA	Cross-River	CRBDA
11	Idundu Bridge	Cross-River	CRBDA
12	Qua River @ Atimbo	Cross-River	CRBDA
13	Yakurr Dam	Cross-River	CRBDA
14	Agbokims Falls	Cross-River	CRBDA
15	Bunya/Akatom Irruan Dam		CRBDA



Bunya Dam Site: Evaporation Pan

Partners:



Special Climate
Change Fund (SCCF)

