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Niamey - Niger



NIGER BASIN AUTHORITY

Executive Secretariat

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REPORT ON THE REGIONAL AWARENESS WORKSHOP FOR DECISION MAKERS AND END USERS OF HYDROCLIMATIC PRODUCTS AND SERVICES IN THE NIGER BASIN

HELD FROM 20th TO 22ND NOVEMBER, 2023 AT CHELSEA HOTEL, ABUJA.



November 2023



The regional awareness workshop for decision-makers and end users of hydroclimatic products and services in

the Niger Basin was held from November 20 to 22, 2023 at Chelsea Central Hotel in Abuja (NIGERIA), under the chairmanship of **Mr. Adeyinka A. ADENOPO**, Director of Water Resources Planning and Technical Services.

The following participants were present:

- The Republic of Benin;
- Burkina Faso;
- The Republic of Cameroon;
- The Republic of Ivory Coast;
- The Republic of Guinea;
- The Federal Republic of Nigeria
- The Republic of Chad.

In addition to participants from institutions and agencies, were also present: The President of the Regional Coordination of Users of Natural Resources in the Niger Basin (CRU/RN/BN); The President of the National Coordination of Users of Natural Resources in the Niger Basin in Nigeria; GMES&Africa , AMCOW, NIHSA, NASRDA, NIMET, NEMA, Federal University of Technology Akure, NIWRMC, Ministry of Finance, Ministry of Agriculture and Food Security, Ministry of Water Resources and Sanitation; Technical Partners (Eleaf , IHE, GIZ, BGR) etc...

OPENING CEREMONY

The opening ceremony was marked by three speeches:

- 1- The introductory remarks from the Director of Water Resources Planning and Technical Services; the Speech of the Technical Partner,
- 2- Mr. Remco DOST, in which he welcomed participants to the event. He stated that the



Organization is based in Netherlands and its core mandate is to mitigate the effect of climate change and disaster risks. He added that member Countries in the Niger Basin are critical to the success of the Project through effective synergy and teamwork.

3- the speech of the Executive Secretary of the NBA, Mr. ABDERAHIM Bireme Hamid. He welcomed and thanked



participants present. He stated that the objective of the Workshop was to enlighten and sensitize member states of the importance of satellite data in reducing the effect of climate change in the socio economic lives of the population living within the Basin. He further stated that there is an urgent need for capacity building of technical personnel in the Basin.

Session1:

ADOPTION OF THE AGENDA OF THE MEETING

The Director, Water Resources Planning & Technical Support Services (WRT&TSS) thereafter requested for the adoption of the agenda of the meeting and set up the meeting bureau, composed as follows:

- **President:** Mr. Adeyinka A. ADENOPO, coordinator of the SFN of Nigeria,
- **Vice President:** Mr. DEBOK Guy, coordinator of the SFN of Cameroon,
- **Rapporteurs:**
 - Mr. BARRY Allassane , National Director of the Center for Disaster Management and Environmental Emergencies in Guinea
 - NBA Executive Secretariat Team.

After reviewing the items on the agenda, participants received the following presentations:

The first day session was marked by the following presentations and discussion:

- the presentation on the strategy and experiences of the NBA in the development of the Niger basin;
- the presentation of decision support tools from the Niger Basin Observatory;
- the presentation on the activities of the SATH-ABN project;
- the presentation on applications and data based on satellite imagery to optimize agricultural production and water management.

S/NO	PRESENTATION TOPIC	KEY POINTS/ SUBMISSIONS	
1	NBAs strategy and experiences in the development of the Niger Basin- BY NBA	<p>The Expert at the NBA Observatory stated the Basin objectives is to collect and gather data on the effects of climate change on the economy of the basin.</p> <p>OBSERVATIONS</p> <ul style="list-style-type: none"> ▪ Human activities degrading the environment ▪ Users should have access to resources ▪ Better management of the environment <p>CHALLENGES</p> <ul style="list-style-type: none"> ▪ Urgent need to manage the resources of the basin to meet the needs of the population residing there ▪ Stronger control of resources in order to reduce the impact of climate change ▪ Coordinated management of installations in the Basin ▪ Inadequate Funding ▪ Need for more technical staff and equipment 	
2	Presentation of the decision making tools of the Niger Basin Observatory- By NBA	<p>The presenter stated that the implementation of SATH (Satellite Hydrology) is in line with the drive for a better knowledge and for the prevention of risks and disasters in the Niger Basin.</p> <p>MISSION/ OBJECTIVES</p> <ul style="list-style-type: none"> ▪ Monitor the progression of the Basin ▪ Produce periodic information of the development of the Basin ▪ Processing and organising of data ▪ Produce aggregated indicators ▪ Access the impact of different projects related to the environment. ▪ Dissemination of information <p>REQUIRMENTS</p> <ul style="list-style-type: none"> ▪ Environment Information System (EIS) ▪ More accurate water quality data ▪ Water use economic analysis 	

S/NO	PRESENTATION TOPIC	KEY POINTS/ SUBMISSIONS	
		<ul style="list-style-type: none"> ▪ Integrated Water Resources Management hydrological forecasting models <p>ISSUES/ CONCERNS</p> <ul style="list-style-type: none"> ▪ Unstable management of natural resources of the Niger Basin ▪ Land use monitoring ▪ Coordination and better management of dams ▪ Need for enhanced knowledge of the impact of climate change on the Basins resources. <p>CHALLENGES</p> <ul style="list-style-type: none"> ▪ Developmental challenges due to the following <ul style="list-style-type: none"> ✓ Dwindling rainfall, paucity of water resources within the Basin. ✓ Damage to the shores of the River ✓ High demand from the population regarding effects of climate change. 	
	<p>QUESTIONS AND ANSWERS</p>	<ol style="list-style-type: none"> 1. What measures are being taken to ensure the implementation of the project? 2. What are the measures put in place to mitigate frequent risks caused by climate change? 3. What are the Mechanisms put in place to enhance early warning system in the NBA? 4. What are the indicators available for member states? 	
4	<p>PRESENTATION OF ACTIVITIES OF SATH PROJECT- BY NBA</p>	<p>Observations/ contributions</p> <p>Benin-</p> <ul style="list-style-type: none"> • appreciated NBA • Measures to be taken to reduce loss of 2.5 billion cubic meters of water in the Basin <p>Burkina Faso</p> <ul style="list-style-type: none"> • Are there mechanisms put in place to strengthen the implantation of the SATH Project 	

S/NO	PRESENTATION TOPIC	KEY POINTS/ SUBMISSIONS	
		<p>Cameroun</p> <ul style="list-style-type: none"> • Is there any Department/ mapping of risk zone available for member states? • What mechanism is in place to reduce risk of Early Warning Systems by NBA • INDICATORS should be sent to member states • Is collaboration with NBA on EWS between member states. • What is the frequency of the alerts and what countries have benefitted from it? <p>NIGERIA</p> <ul style="list-style-type: none"> • Appreciated presenters <p>NIHSA</p> <ul style="list-style-type: none"> • At what points are we sure these data collected is been uploaded to reflect true state of the stations in member Countries? • Need for a top to Bottom capacity building program <p>CHAD</p> <ul style="list-style-type: none"> • Dire need to strengthen services that are data providers • Chad doesn't have a specific budget for hydrological services and monitoring. <p>USERS GROUP</p> <ul style="list-style-type: none"> • Communities don't have access to the technology used for dissemination of information • There was an urgent need to come down to the level of the community people – recommends Community SATH <p>RESPONSES BY EXPERTS</p> <ul style="list-style-type: none"> • NBA is addressing issue of mapping of risk zones • Feasibility study carried out on the quality of ground water in polluted zones • AfDB and GIZ through the PIDACC Project did a situation analysis of early warning systems in each country and 	

S/NO	PRESENTATION TOPIC	KEY POINTS/ SUBMISSIONS	
		<p>has put together a mechanism to strengthen</p> <ul style="list-style-type: none"> • Relocating people is the responsibility of National Policy of member States • Collection of data is the primary responsibility of the Member State. • Coordinators in Member States are responsible for sharing of data among member states and the secretariat of the NBA 	
5	APPLICATION AND DATA BASED ON SATELLITE IMAGERY TO OPTIMIZE AGRICULTURAL PRODUCTION & WATER MANAGEMENT- SATH PROJECT- BY ELEAF	<p>The highlights of the presentation include:</p> <ol style="list-style-type: none"> 1. Satellite data is useless until it is validated and turned into information 2. ELEAF has been in operation for 20 years and is focused on solving issues that borders on population, energy and bio-diversity. 3. Pi-mapping turns remote sensing data into smart pixels 4. Satellite data needs data from forecast stations from Member Countries 5. Revolution of ICT has helped in disseminating information to even the rural farmers 	
6	PRESENTATION OF THE STRATEGY FOR THE IMPROVEMENT OF SATH PRODUCTS AND DEVELOPMENT- By-IHE	<ol style="list-style-type: none"> 1. IHE means Institute for Water Education – focuses on Large Scale Hydrological Modeling System 2. Content include; <ul style="list-style-type: none"> • LSHM Modeling System set up • LSHM output and information • Calibration and validation results for Nigeria • Product development <p>COSTS & BENEFITS</p> <ul style="list-style-type: none"> • Quality of the data • Utility of the data • Timeliness of the data products 	
	QUESTIONS AND ANSWERS/ REMARKS	CHAD	

S/NO	PRESENTATION TOPIC	KEY POINTS/ SUBMISSIONS	
		<ul style="list-style-type: none"> • We should all be committed to this project <p>NIGERIA</p> <ul style="list-style-type: none"> • Institutional procedures should be stated. • There should be proactive steps taken by participants <p>GUINEA</p> <ul style="list-style-type: none"> • Data collection is a challenge for Guinea <p>COTE D IVOIRE</p> <ul style="list-style-type: none"> • How can we acquire useful information from data? 	

Session 2:

This second day dedicated to member countries institutions experiences exchanges in terms of the roles, organization and functions of the SFN and CNU/CRU and experiences and products developed by technical services. So several communications were presented:

The Coordinator NFS Nigeria welcomed participants to the second day of the Workshop. He highlighted the role of the NFS Nigeria as follows;

- To supervise and coordinate NBA ACTIVITIES AT THE NATIONAL LEVEL
- Ensure smooth interface between the Executive Secretariat and the National Administration in the management of the Basin.
- Research, disseminate any information relating to the development of the River Basin

He added that the NFS Nigeria has the following stakeholders namely;

- Federal Ministry of Water Resources and Sanitation
- Federal Ministry of Agriculture
- Federal Ministry of Environment
- NIHSA
- NIMET
- NWRI
- NARSDA
- National coordination of users of natural Resources in the Niger Basin

PRESENTATION ON THE ROLES, ORGANIZATION AND FUNCTIONS OF CNU/CRU- Role of Civil Society

The President NUC said that the framework is set up at National level to attain the target of helping farmers in the Basin. Furthermore, he stated that the Users Council is developing an operational support to empower farmers to enhance their intellectual capacity.

ACHIEVEMENTS

- Supply of energy to Mali
- Establishment of agreement protocols.
- Visitation to several dams within the Basin

OBSERVATION

- Need to renew CNU on time
- More meeting required
- Better promotion of internal initiatives/ conferences.

PRESENTATION OF EWS/DRRC: ROLES, FUNCTIONS, CHALLENGES AND NEEDS- BY BENIN, BURKINAFASO, CAMEROUN AND COTE DIVOIRE

BENIN REPUBLIC:

There is a rapid need for information dissemination of climate change risks to member states.

CHALLENGES

- Need to reinforce EWS in Benin
- Upgrade dissemination of EWS process
- Insurance of sustainability of infrastructure
- Cost of extension of networks
- Capacity building of bodies involved.

BURKINA FASO

INTRODUCTION

- Burkina faso is committed and focused on creating policies for civil protection, training of people regarding civil protection. Also involved in the management of migration, forecasting and conducting checks on standards of buildings

ACHIEVEMENTS

- DEVELOPMENT of National policy on Civil relations

- Drafting of national plan on disaster management
- Drafting of an emergency plan in case of a pandemic
- Development of a regulation against fire in buildings

SUGGESTIONS

- Better advocacy
- More simplified access to data collected by NBA
- Capacity building of National Bodies that have the EWS equipment/ technology

CAMEROON

Cameroun does not have an independent body for civil protection. This is under the supervision of the Ministry of Territory who is setting up laws regarding management of risks and catastrophes.

CHALLENGES

- Dissemination of warning bulletins on time
- Need for retraining of staff
- Multiplicity of stakeholders
- Confiscation of information
- Inadequate equipment, storage space and funding.

Côte D'Ivoire

The Country possesses several observation stations and is active in Early warning systems at both national and local levels. Furthermore, the country also produces vigilance and flood bulletins in Abidjan.

CHALLENGES

- Need to update technical network
- Setting up of a disciplinary team
- Organize regular meetings
- Need for synergy between National Bodies and Organs in the sustainable management of the Observatory

CONCLUSION

- Dire need for faster and reliable Information.

REPUBLIC OF GUINEA

The Representative from Guinea stated that his Country is liaising with the population by ensuring management of disasters, giving technical counseling and organizing

seminars on disaster reduction. He also stated that Guinea has an Early Warning System for both Weather and Hydrological matters.

CHAD

Chad is in the process of developing an early warning system which aims to manage hydro climatic information, monitor data from stations in the various climatic zones

METHODOLOGY

- Door to door
- Sms and emails

CHALLENGES

- Outdated systems
- Agency is understaffed
- Payment issues

QUESTIONS AND ANSWERS

1. Why was there focus on rural population
2. What was the role of NBA in the process?
3. What was the likelihood of receiving support from NBA?
4. Why is membership of the Users Group limited to only the agriculture sector?
5. Is there a strategy in place in NBA to coordinate all EWS centers in member states to assist where deficiency exists?

RESPONSES

1. NBA is in the process of organizing the system of EWS for flooding in the Basin
2. There is a situational assessment with aid of GIZ to address floods
3. Challenge of data key Early warning system- data needed in real time.
4. There is funding from PIDACC to acquire hydro meteorological stations
5. EWS Must be dependent on the member State collecting the data; only then can NBA PRODUCE ACCURATE Information for civil protection for both hydrological and meteorological sectors

FEDERAL REPUBLIC OF NIGERIA

The NFS Coordinator Nigeria stated that NFS Nigeria has several stakeholders and the national body collaborates with NBA. He also stated that the NFS engages with several MDAs in Nigeria.

PRESENTATIONS BY MDAs in NIGERIA

A. NIMET

The Representative of NIMET gave a brief introduction of the roles and functions of the agency which is producing and analyzing meteorological data and disseminating it to the population in Nigeria. Furthermore, the Rep highlighted 4 products of the agency which include;

- Hydro-meteorological bulletin
- Probable flood risk management
- Rainfall intensity duration frequency curve
- Seasonal climate prediction

B. NIHSA

The Rep NIHSA stated that the agency has a mandate of carrying out hydrological activities and related services for assessment of the nation's surface and ground water resources in terms of quality and quantity. Continuing it was stated that the Agency has 17 automatic weather observing station. The core functions of NIHSA include;

- Operation and maintenance of hydrological stations nationwide
- In charge of issuance of flood and drought Early Warning System
- In charge of ground water exploration and surface water assessment.

NIHSA a uses the soil and water assessment tool (swat) to carry out its activities.

National Airspace Research and Development Agency (NARSDA)

The Rep NARSDA gave a brief introduction of the agency which was established on the 5th of May, 1999 and has the mandate to vigorously pursue the attainment of space capabilities as an essential tool for its socio-economic development and to enhance the quality of life of Nigerians through research, engineering development and the design and manufacture of hardware and software. She added that the agency has 6 satellites/

NEMA

Established in 1999 and is charged with coordinating all activities relating to disaster management in Nigeria. The agency is also in charge of mitigating disasters, enhancing community resilience to disaster s in Nigeria. Furthermore, the rep stated that the agency is involved in the following activities;

- Providing relief materials to disaster victims
- Coordinate research relating to disaster management
- Liaises with international agencies such as UNDP, UNICEF

- Stockpiling of relief materials
- Carry out risk management mapping.

CHALLENGES

1. Cultural sentiments of the population to move/ relocate to safe grounds
2. Population building on water ways.

WAY FORWARD

- Build the culture of disaster awareness

NIWRMC

ESTABLISHED IN 2007 and is charged with issuance of water licenses as well as implementing IWRM SDG 5 in Nigeria. The agency is the regulatory arm of the Federal Ministry of Water Resources and Sanitation. He agency also implements regulatory policies both structural and non-structural.

CHALLENGES

- Passage of the Water Resources Bill yet to be approved
- need more partners
- need more capacity building

SUGGESTIONS

The SATH project will assist the agency in carrying out its activities.

GMES-AFRICA- GLOBAL MONITORING OF THE ENVIRONMENT & SECURITY ON AFRICA

(MULTI SCALE FLOOD MONITORING AND ASSESSMENT SERVICES FOR WEST AFRICA – MIFMASS)

The Representative stated that the platform focuses on earth observation Data for flood monitoring, Assessment and management and has the support of the European Union. He added that the data used is free data.

ACHIEVEMENTS

- The development of a hybrid flood risk modeling approach
- The use of GIS Technology to map flood risk areas in river Basins
- Presentation of a new approach for mapping/ modeling flood risks

OBJECTIVES

- Establish an updatable flood event database
- Provide Disaster Management Organizations (DMOs) with timely information before, during and after flood events.
- Strengthen the capacities of DMOs and other target groups along flood plains

APPROACHES

- Hydraulic flood modeling
- Integrated flood modeling (GIS & Remote sensing)

CHALLENGES

- Inadequate historical data
- Inadequate insitu monitoring station
- Non uniformity of data collection stations
- Most water ways are not monitored.
- Buy in at the national level to SATH

SUGGESTIONS

- Continuous updating
- Appropriate budgeting
- Deployment of monitoring stations in strategic water ways
- Continuous in-house DMO training
- Agreement signing for migration
- Upgrading of forecast models

UNIVERSITY OF AKURE

Weather and climate services & impacts for agricultural sector

The Presenter stated the following;

- that climate variability and climate change are the main causes of stress on food production and availability
- 1/2 of the economically active population in developing countries relied on agriculture for their livelihood
- Climate impact are location specific

MAIN ELEMENTS OF LOCALISED CLIMATE SCHEMES FOR AGRICULTURE

- Collection and synthesis of data on local weather, climate and crops
- Market prices of crops and input

- Use of weather and climate forecasts

Furthermore, the Rep stated that the use of Climate Smart Agriculture (CSA) which seeks to apply an integrated approach to managing landscapes and increasing productivity (income, reduction in vulnerability) and the Value chain approach in providing climate services is being used by his Organization ie: **CREDIT – AGGREGATION – TRAINING – INPUTS – PRODUCTION – PROCESSING - MARKETS**

EXPANSION OF SATELLITE HYDROLOGY (SATH) PROJECT FOR CLIMATE ADAPTATION AND FLOOD RISK MANAGEMENT IN NIGERIA

The presenter stated that the SATH project was established since 2010 at NBA. He added that there is a need to expand the coverage of SATH Products to extend throughout Nigeria. He further added that 80% of the population of the Niger Basin are in Nigeria and that Nigeria requires improved and real time qualitative hydrological data collection system.

IMPORTANCE

- Useful for sustainable monitoring of flood and droughts

RECOMMENDATIONS

- NBA and the development partners should set up modalities for carrying out the expansion of SATH project in Nigeria
- Comprehensive river trainings and de-silting of river channels.

QUESTIONS AND ANSWERS

1. Water Charter should be harmonized
2. Need for repetition of this Workshop/ with the same delegates in other member Countries.
3. Asked NIMET if they have satisfactory results from forecasts when undergoing their 2023 validation.

RESPONSES

1. NIMET Rep stated that validation of the forecasting for 2023 has been completed and that the agency conducts periodic climate reviews of the forecast which is published every 3 months.
2. We have ground data and satellite data.

Session 3:

The third day was marked by: (i) A presentation on the initiative to establish a regional network of data producers and exchange working group; (ii) A high-level panel and (iii) A guided group work session on strengthening “decision maker-user” interface platforms for climate services for disaster risk reduction.

HIGH LEVEL PANEL DISCUSSION

The high level Panel discussion comprises representative from NBA, NASRDA, NIHSA, CRU and GMES. The discussions were centered on the following thematic areas:

1. What would be the most important climate services NBA could deliver?
2. Which actors would be involved to produce the output?
3. What would these actors provide to achieve the goals?
4. How could the financing be set up for continuity of climate services?
5. How could the capacity for climate services be mobilized?

After the discussions relating to these questions the following take aways from panel are highlighted:

❖ The use of climate services:

- Services are key for the operationalisation of climate services at governmental level;
- Improve quality of life of inhabitants of the member states;
- Monitoring and forecasting purposes in data scarce regions;
- Climate challenges are not restricted by borders;
- Flood/drought risk forecasts:
 - Products that are required on a daily basis
 - Address the people social/economical affected
 - Combine data: from weather to phenology

❖ The Challenges:

To use services:

- Need to know what data is available for climate services
- What are the user requirements
- Determine how to use the data
- Advertise

Datagaps:

- Where to get data at country level
- Coordination between sectors: AMCOW coordination platform can support
- Use of satellite based data
- Require a mechanism for sharing data
-

Capacity building of members of the NBA:

- Make sure all countries can build capacity to use services
- NBA at regional level, memberstates at the local level

No co-creation of services:

- Engage with those whose lives depend on the information
- Include universities and businesses in the development of services

❖ **Financing:**

- Member states contribution
- International climate funds
- There are now no products that users are willing to pay for, need to look from a value chain perspective (remark: the panel member considers farmers etc to be the only users. I would add to that the governmental organisations, NGO`s, they can use the data as is and should finance its continuity as is. The further detailed services such as irrigation services may be financed by eg. Farmers)
- No operational hardware (eg gauging stations)

Takeaway:

To conclude, it was stated that all the workshop participants were the first end user for decision making in terms of risks and statistics in production; they have to make sure that the continuity of data and information sharing is ensured before them and can go into the more technical and organisational challenged applications such as farmer supports.

GROUP DISCUSSION ON STRENGTHENING CLIMATE SERVICES USER INTERFACE.

The participants were grouped into six (6) working sessions teams for discussions and filling the thematic forms.

RECOMMENDATIONS

At the end of these Sessions the following recommendations were made:

To the NBA:

1. Highlight the mid-term report on the implementation of the Sandai 2015-2030 framework for better performance;
2. Strengthen collaboration between institutions responsible for data collection and information users for good decision-making;
3. Strengthen the operational capacities of SFN, CNU, CRU in order to make them more efficient;
4. Provide Technical Services (SNHM, DRR, etc.) with technical and material capabilities to facilitate their operational function;
5. Promote meetings to exchange experiences in the areas of SAP between member countries;
6. Actively involve the CNU/CRU in the establishment of the organization and operation of the regional data collection and management network;
7. Capitalize the services of Space Agencies at the national level (NASRDA) for capacity development in the space field;
8. Promote collaboration with regional and continental institutions (GMES & Africa, AMCOW, NASRDA, etc.)

To NBA Member States:

- a) Modernize existing hydrological and meteorological infrastructure for effective adaptation to climate change and effective management of flood risks through the financing provided in the PIDACC;
- b) Revitalize the network of producers and users of hydro-climatic, environmental and socio-economic data.

Conclusion:

The participants address their sincere thanks to His Excellency **Mr. BOLA AHMED TINUBU**, GCFR President of the Federal Republic of Nigeria, to the Government and People of Nigeria, for the warm welcome and all-African hospitality which they were subjected to during their stay in Abuja.

Annex 1: ATTENDANCE LIST

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Annex 2: PHOTO

