DRAFT
THE FEDERAL GOVERNMENT OF NIGERIA
AGRO-CLIMATE RESILIENCE IN SEMI-ARID LANDSCAPE (ACReSAL)
FEDERAL PROJECT MANAGEMENT UNIT (FPMU)

TERMS OF REFERENCE FOR THE DEVELOPMENT OF
WATERSHED MANAGEMENT PLANS

1.0   INTRODUCTION OF THE PROJECT

The Agro-Climatic Resilience in Semi-Arid Landscapes (ACReSAL) Project is a US$700m project financed by the World Bank (see World Bank Project Appraisal Document) aimed at increasing the adoption of sustainable landscape management practices in targeted watersheds in northern Nigeria and strengthen Nigeria's long-term framework for integrated climate-resilient landscape management.
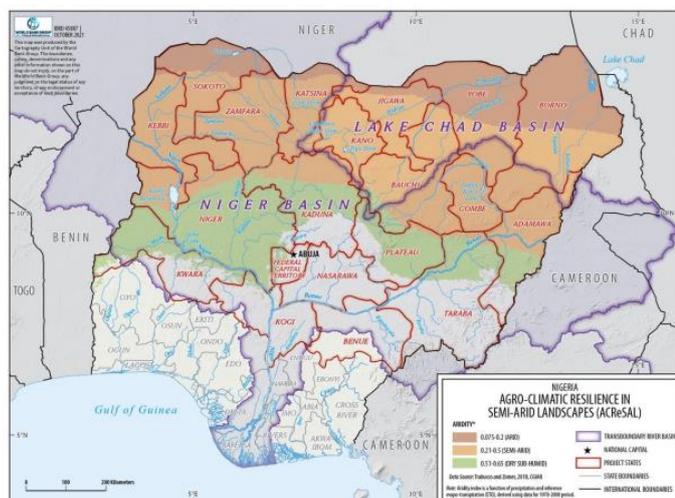
The ACReSAL project target selected States (19 states and the FCT) in dry (arid, semi-arid, or dry sub-humid) areas characterized by low precipitation, sparse vegetative cover, high poverty rates, low literacy, an environment of fragility, conflict, and violence, degradation of natural resources, poor agricultural productivity, climate risks, desertification, poor penetration of modern technology, and weak institutional capacity. Addressing these issues will require effort in multiple sectors (multi-sectoral approach). An integrated and participatory watershed management approach will be the operating framework for project implementation at field level. Appropriate modern technology will be leveraged throughout the project activities, including to manage the disruption of the ongoing COVID-19 pandemic and help build back better and smarter environment.

In particular, the project will support activities to develop multi-sectoral approaches for strategic watershed management, desertification control and landscape management, improve community livelihoods and resilience, and strengthen institutions.

The ACReSAL project aligns with the Federal Government of Nigeria in restoring about one million ha degraded land out of the 4 million ha targets set for broader landscape restoration by 2030.

2.0   PROJECT COMPONENTS

➢ **COMPONENT A (DRYLAND MANAGEMENT)**

This Component aims at Supporting Strategic Watershed Planning processes, prioritize major investments to address desertification and land degradation in Northern Nigeria at Federal and State level and complement investments at community level.

Component A is composed of the following sub-components: ·

Sub-component A1: Strategic Watershed Planning ·

Sub-component A2: Landscape Investment ·

Sub-component A3: Special Ecosystem

➢ **COMPONENT B (COMMUNITY CLIMATE RESIELIENCE)**

Aims at improving Agro-climatic resilience at community and household levels by promoting locally adapted Sustainable Land and Water Management (SLWM) strategies and through climate-smart approaches to agricultural and natural resource management.

Component B will support the following sub-components: ·

Sub-component B1: Community strengthening and

Sub-component B1: Community investments

➢ **COMPONENT C (INSTITUTIONAL STRENTHGENING AND PROJECT MANAGEMENT)**

Aims at improving the enabling institutional and policy foundation for integrated landscape management in Nigeria to a longer-term national framework and support overall project monitoring and management.

Component C is comprised of two Sub-components:

Sub-components C1: Institutional and Policy Strengthening and

Sub-components C2: Project Management

➢ **COMPONENT D (CONTINGENCIES & EMERGENCY RESPONSE)**

This is a component that could be used when necessary to provide immediate support to an eligible crisis or emergency,

A CERC is a financing mechanism available to Borrowers in IPF operations to access funds rapidly to respond to an eligible crisis or emergency (includes disasters and health emergencies). This component will enable quick deployment of uncommitted funds to address these natural or man-made crises and emergencies during project implementation.

3.0   RATIONALE/JUSTIFICATION

Weak coordination mechanisms inadequate budgetary provisions, capacity, poor stakeholders' involvement etc. has led to poor management of the watersheds across Nigeria. The ACReSAL Project is structured to achieve several positive outcomes and impact on beneficiaries and communities affected by watershed degradation in the targeted areas of northern Nigeria. For this to happen, it is important to carryout Strategic Watershed Management plans or Catchment Management Plans. The plans will be used to promote effective planning and management of Water and Land Resources in an equitable, economically efficient and environmentally sustainable way for domestic water supply, agriculture, hydropower, industry, livestock and mining and other uses of water. It will also

be used to promote flood and drought management, ecosystem protection, better land use management as well as promote equitable access to water especially for the most vulnerable and the poor which includes women and children in the rural areas, it will also minimize water use conflicts between upstream and downstream users.

4.0   OBJECTIVE OF CONSULTANCY

The broad objective of this assignment is to support the Nigeria ACReSAL project team to develop 20 Strategic Watershed Plans as well as the 200 Microwatershed Management plans for 19 states and FCT. Specifically, the assignment will help:

➢ Leverage national, regional, and global good practices to undertake watershed planning at strategic watershed and microwatershed level using both analytical and meaningful stakeholder inputs.

➢ Develop an appropriate knowledge base, planning framework, analytical tools, consultation strategies for the targeted areas.

➢ Develop ~20 strategic watershed plans and ~200 microwatershed plans as targeted under the ACReSAL project which effectively address key water and land management, socio-economic and environmental challenges and opportunities and promote sustainable utilization and development of land and water resources. This should also help develop a harmonized, shared vision across sectoral MDAs.

  ➢ Support equitable allocation and efficient use of water, control, protect land and water sources (Surface and Ground water) to minimize water use conflicts, restore degraded land, improve sustainable agricultural productivity, promote environmental sustainability, and improve community livelihoods.

  ➢ Identify a pipeline of landscape investments (including nature-based solutions and other infrastructure and monitoring investments) in line with the objectives of the ACReSAL project.

  ➢ Improve climate resilience and climate-smart development of the landscapes. Support data collection and analysis for GHG emission tracking, estimation and reduction.

5.0   SCOPE OF THE CONSULTANCY SERVICES

Although the initial work of the Consultancy will be to focus on the ~20 Strategic Watersheds and 200 microwatersheds in the areas targeted the ACReSAL project for physical investment, the work will also eventually cover all Strategic Watersheds covering all of Nigeria in line with the second part of the ACReSAL project development objective.

The Consultancy should aim to support the government team to undertake these activities and build capacity to update/scale-up these systems in the future.

The Consultancy Services entails site visits, meetings, interactions with stakeholders and technical data collection in all the identified project sites.

The scope of services shall focus on the following tasks:

Task 1 – Inception

- Familiarization with task, existing reports, data
- Initial meetings with key stakeholder groups (incl. virtual meetings) including FPMU, SPMUs, relevant MDAs, Academia, Regional/International organizations active on watershed/landscape approaches of relevance
- Detailed plan and approach for activities, outputs, and timelines

Key Deliverables: Inception Report & Presentation. Discussion of draft at Workshop and a Note on how comments were addressed in the final report version.

Task 2 – Watershed Knowledge Base

Provide a synoptic view of the Catchment from a multi-sectoral, spatial perspective

Livestock

Aridity

Population

- Collate existing relevant plans (e.g. catchment/basin/watershed/state/sectoral) and identify potential data sources
- In consultation with the Client, refine boundaries of the Strategic Watersheds for the entire country (these are expected to include ~20 covering the 19 states and FCT targeted in the ACReSAL project grouped under the existing 8 Hydrological Areas with associated Catchment Management Offices) and the associated micro watersheds (e.g. Level 12 HydroSheds or finer)
- Collate and leverage existing data (spatially-referenced and with timeseries wherever possible) from relevant MDAs including NASRDA and sectoral national master plans (e.g. National Water Resources Master Plan 2013), global data services based on reported data, earth observation, GIS/cloud analytics (e.g. from UN Agencies, World Bank, NASA, NOAA, ESA, GEO, academia, etc. including platforms such as https://maps.worldbank.org/ and https://earthmap.org/ as well as work done as part of ACReSAL such as the Nigeria WebApp). Also explore existing collations done for the ACReSAL project and those accessible through global data sources. These should include data related to Climate risk/disaster, Land cover (incl. Agriculture and food system), resilience and mitigation practices, Hydrology, Water, Agriculture, Environment (Natural Resources/Pollution) include protected areas, GHGs, population, Social development/gender/vulnerability/poverty, Employment and jobs, Economic aspects, Infrastructure (e.g. water infrastructure, roads), Policies, Institutions/Stakeholders (farm and non-farm rural enterprises in food systems, producers' organizations/associations, CSOs, government at all levels, private sector/SMEs, academia), in-situ monitoring network, and other relevant major public and private investments related to landscapes.
- Develop a **Nigeria Landscapes Data Catalog** for available data (with a focus on free/public-domain data but also any important available subscription data services) relevant for watershed planning in Nigeria with relevant metadata.
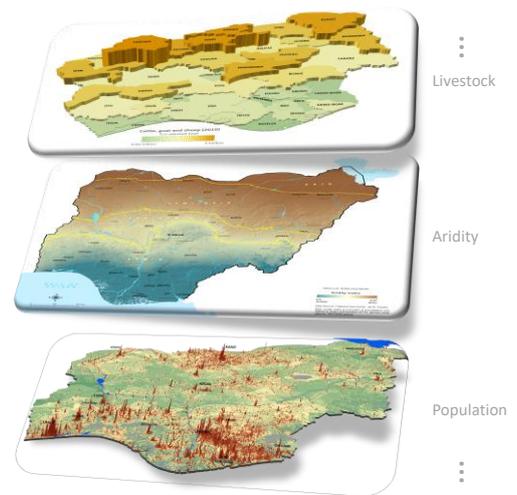
- Develop **Strategic Watershed eProfiles** for all Strategic watersheds in Nigeria (starting with the ones targeted by ACReSAL). This should indicate historical trends and status related to climate, water resources, agriculture, environment, social, economic/infrastructure, and institutional aspects of the watershed with interactive maps and graphs to interact with and explore the data. It should include key challenges and opportunities to be addressed as part of the watershed planning process (e.g. siltation in major water storage, climate risks, critical infrastructure needs, poor monitoring, capacity development needs) with a focus on aspects related to environment, water resources, and agriculture.

Key Deliverables: Nigeria Landscapes Data Catalog, Strategic Watershed eProfiles, Report & Presentation on Watershed Knowledge Base, Digital Data (e.g. GIS, WebApps) and Knowledge Repository (e.g. links to relevant documents). Discussion of draft at Workshop and a Note on how comments were addressed in the final report version.

Task 3 – Planning Framework

Provide an overview of the framework to be used for Watershed Planning at different scales, including:

- *Current Status and Trends:* A description of "Point A" where things stand currently and the journey to that point on each Watershed.
- *Development Vision:* where do the stakeholders want the basin to be in 20 years "Point B" to evolve a Strategy of getting from A (current state) to B (vision) leveraging activities related to information, institutions/policies, and green and grey investments. This should be based on intensive discussions with all key stakeholder groups relevant at strategic and microwatershed levels in order to capture their aspirations and concerns and outline a set of possible futures to set the tone for the basin planning.

Strategic Watershed Planning

Point A: Current Situation — The status of the watershed *today* including its historical and evolving challenges and opportunities

Strategy

Point B: Future Vision — What would the stakeholders like the watershed to be like 20 years into the *future*?

Institutions

Information   Investments

Support Program
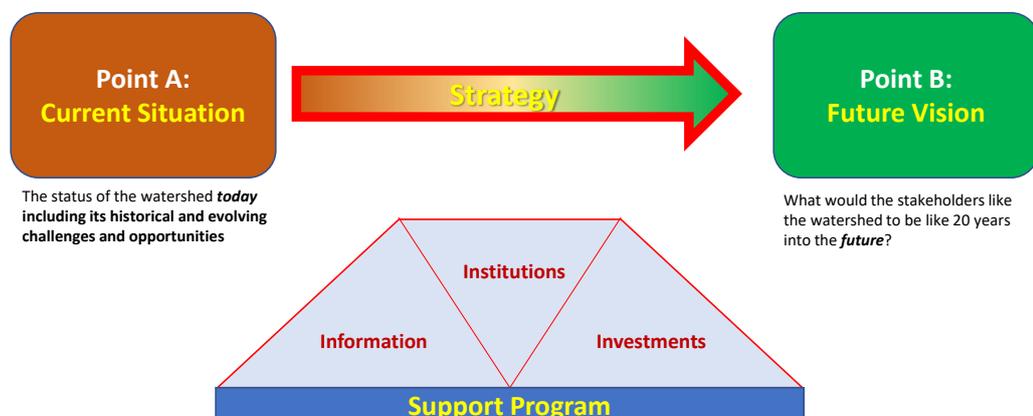
- **Develop Planning Objectives** (e.g. environmental, social, economic, institutional, implementability) **and related Criteria and Indicators** to compare scenarios and illustrate trade-offs. This includes:
    - Water Resources (hydrographs at key locations, water demands)
    - Environmental (erosion, sedimentation, water quality, C Sequestration)
    - Economic (productivity, benefits, costs)
    - Social (jobs/employment, resettlement)
- **Planning scenarios**: Develop a range of scenarios to explore what may influence future landscapes, including:
    - *Infrastructure* (e.g. green/grey infrastructure for storage, managed aquifer recharge, irrigation, erosion management, wastewater treatment, other climate-smart and resilient investments and practices, other relevant public/private investments etc.) – include both already identified/prepared investments (e.g. under NEWMAP, FADAMA, TRIMING) and other possibilities
    - *Social* (demography/population distribution and growth)
    - *Environmental* (climate – including historical climate and future climate change under different available GCMs e.g. IPCC CMIP6 models, Environmental Flows, land use change – e.g. increased forestry, increased agriculture, improved watershed management)
    - *Economic* (productivity/needs, growth corridors, growth projections – and associated implications for water demand)

Key Deliverables: Report on Strategic Watershed Planning Framework. Discussion of draft at Workshop and a Note on how comments were addressed in the final report version.

Task 4 – Watershed Analytics

Provide appropriate analytics (e.g. using free tools such as SWAT/HAWQS/INVEST or other simulation, optimization, or multi-criteria methodologies) at the level of each Strategic Watershed to support the creation of the Watershed Plans (these should also be useful for planning at microwatershed level) in order to provide insights into:

- Water Balance/Management (leverage existing plan information e.g. 2013 NWR Master Plan)
    - (i) Water Resources Assessment – in terms of Surface Water, Ground Water status and trends, including related to variability/hydrologic regimes and quality
    - (ii) Future Water Demand/Use Assessment and projections – all key sectors
- Ecosystem services and resilience factors (incl. erosion models based on RUSLE or equivalent, simple pollution analytics, carbon sequestration, etc.)
- Implications of various Scenarios – development/investment, climate smart and resilient watersheds
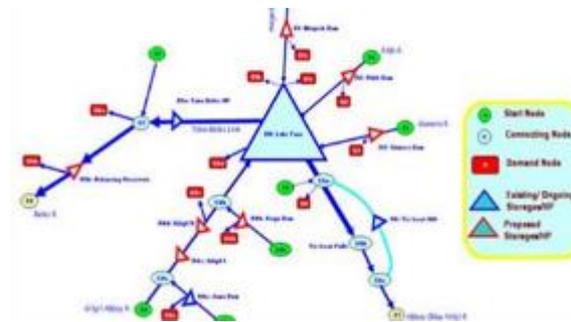
Key Deliverable: Report on Watershed Analytics with simple interactive visualizations of scenarios on online mobile-friendly platform. Discussion of draft at Workshop and a Note on how comments were addressed in the final report version.

Task 5 - Structured Stakeholder Involvement

Although listed as a separate task, this activity is mainstreamed into all other tasks to be able to provide a meaningful opportunity for stakeholders to provide inputs to the watershed plan.

The structured stakeholder consultation should help improve stakeholder awareness and development of a shared vision for relevant indicators, scenarios, options, as well as support knowledge base development during the early stages and provide feedback and guidance on the watershed plans. The types and scale of stakeholders identified to be involved will be different for the Strategic Watershed and Microwatershed levels to reflect the types of issues and options being considered at each scale. These could also include multiple channels for consultation as appropriate including well-facilitated in-person meetings, virtual follow-ups, online surveys, and focus group discussions, additionally facilitated by shared experiences such as study tours/joint walkthroughs within the watershed. It is critical that the technical jargon or complex concepts be adapted to improve communication of key concepts and to meaningfully solicit feedback.

The work will include:
- Identification and Establishment of Catchment Management Institutional Structures e.g CMCC, SAC and SIWRMC
- Stakeholder Mobilization/Meetings – leveraging technology (FPMU and relevant SPMUs and other MDAs can provide inputs to target key resource people and groups)
- Surveys (e.g. using smartphones, tablets, sensors/lab tests for soils)/ Joint Walkthroughs
- Livelihood promotion/resilient economic growth opportunities/skills/local enterprise
- Peace building
- Community involvement during all stages of the project activities including implementation (e.g. for approval of milestones)

Key Deliverable: Report on Stakeholder Involvement including visual photo/video documentation (at least at two stages for each Strategic Watershed – initial and draft Watershed e-Plan versions). Discussion of drafts at Workshop and a Note on how comments were addressed in the final consolidated Stakeholder Involvement report version.

Task 6 –Strategic Watershed ePlans

Develop all the Strategic Watershed Plans with appropriate analytical (science-based) and meaningful stakeholder (opinion-based) inputs. These plans should be considered rolling plans being updated regularly (e.g. every 5 years). The Strategic Watersheds should included all the ~20 that cover all parts of the 19 states and FCT that are the focus of the ACReSAL project.

Analytical & Stakeholder Tracks for Multi-sectoral Watershed Planning...

The Data Value Chain
For Watershed Investments
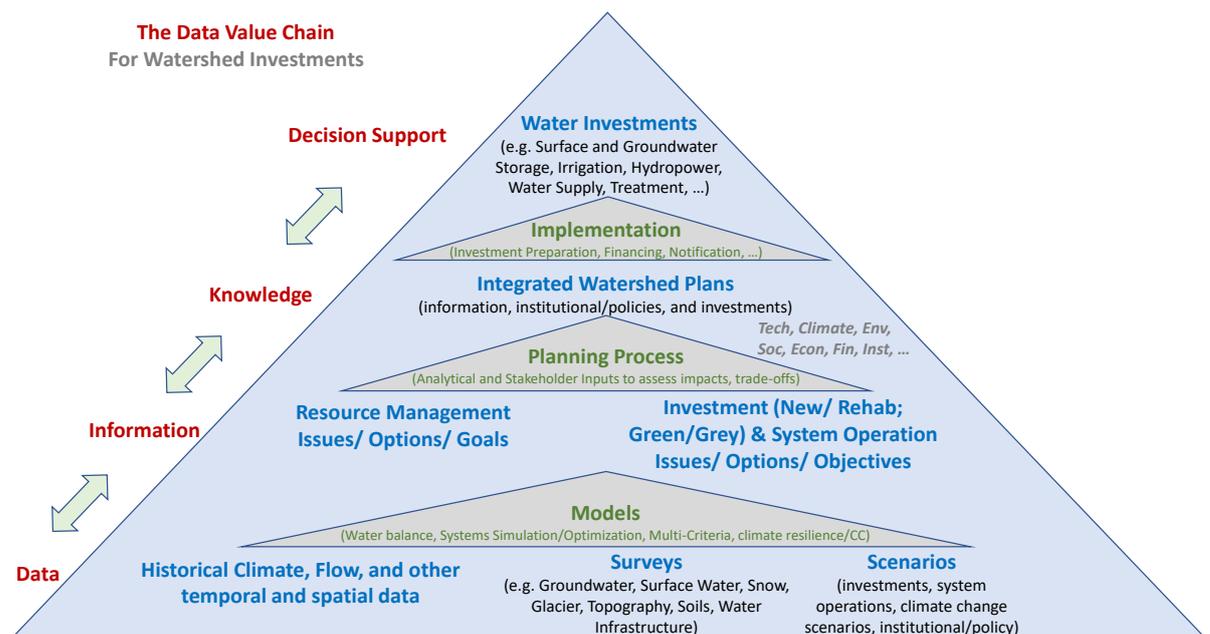
The Strategic Watershed ePlans should include:

- *Watershed Profile* (building on Task 2)
- *Vision* for Watershed and associated *planning framework elements* (building on Task 3)
- *Summary of Analytical Inputs* (building on Task 4)
- *Summary of Stakeholder Inputs* (building on Task 5 for consultation at initial stage, as well as draft and final plan stages)
- *Summary Watershed Plan* covering action plan for:
  (i) Information (improving monitoring)
  (ii) Institutions (incl. capacity building, watershed level institution strengthening, policy implications)
  (iii) Investments (green/grey investments with a strong focus on nature-based solutions, coordinating systems operations where relevant)
- *Plan Details:* Outline of spatial area (e.g. sub-catchment, special areas) plans, thematic/sectoral/institutional plans as part of the disaggregated shared vision of the Strategic Watershed Plan. These could include:
  - Water Storage that will outline the potential for additional storage and other elements of water security, suggest improvements to operations (including reflection of multi-sectoral needs in the basin), and enhanced consideration of dam safety aspects.
  - Energy and Mining that will outline the water-related elements of investments and operations for energy and mining activities, including hydropower generation, biomass energy, as well as emerging mining water requirements and related pollution management.
  - Agriculture (incl. irrigation), Livestock, and Fisheries that will include plans for improving agricultural water productivity, managing non-point source pollution, improving availability of water for crops, livestock and fisheries, irrigation expansion, drainage improvement, improved irrigation supply using modern technologies, climate smart/resilient practices, agro-processing, improving market access, sustainable value chain services involving the private sector.
  - Flood and Drought Management that will examine the hardware and software approaches for improving climate resilience in each Basin.
  - Catchment Management/Land Use Planning that will prioritize catchments for watershed management activities from natural resources management and livelihood perspectives. This will include management options to reduce erosion and manage existing gully systems especially where they are threatening human or ecosystem assets.
  - Wetland Management: This will recognize and analyze the wetland mapping, policy framework for classifying and managing wetlands, dynamics and trends in critical wetlands, functional services provided by wetlands in different sub-basins, EIA requirements, institutional capacity, and development needs. The Plan will indicate the approaches needed to strengthen wetland management, including monitoring, land use management, water quality management, fisheries management, biodiversity management, eco-tourism development, etc.
  - Riparian Area Management that will recognize the current policy and institutional framework for riparian area management approaches (e.g. buffer areas for rivers, lakes, and wetlands), future needs with increasing pressures on wetlands and the need to incorporate other key issues (e.g. eco-tourism, agriculture, etc.) in the management of these riparian areas. This will include an analysis of ongoing activities and propose a national plan for management of different types of riparian areas.
  - Biodiversity and Protected Area Management to improve the water-related management of protected areas (e.g. as envisaged in Subcomponent A3 of ACReSAL including provision of boreholes, management of water bodies and water quality for flora, fauna, and staff/visitors), improvement of biodiversity within and outside

protected areas using improved water management, improved water development and management for eco-tourism, and effective flood/drought management in this regard.

- Environmental Flows, Navigation, and Transport to better regulate the flow regime and improving the provision of adequate cross-drainage in critical transport links (and potential for green roads). This will also include an analysis of the necessary environmental flows and regimes that could help improve environmental, social, and economic benefits in the system.
- Strategic Environmental and Social Assessment to briefly summarize emerging (incl. cumulative) environmental and social issues associated with investment and management options (incl. no action) and management strategies to address these issues.
- Water Supply and Sanitation to improve supply of safe water and provision of adequate drainage to urban and rural areas for domestic, industrial, and service needs.
- Pollution Management to improve overall pollution management (incl. source reduction, and end-of-pipe treatment) for key existing and evolving point and non-point sources (e.g. cities, towns, settlements, agricultural areas) – especially in areas that threaten key water sources (surface and ground water), biodiversity, and public health. This should be based on an analysis of options for managing water quality – including approaches that recognize local constraints on land, energy, capacity, etc.
- Monitoring to develop an effective Basin Monitoring System that will provide appropriate real-time and archived information relating to hydro-meteorological, water quality, erosion/sedimentation, groundwater, water use, agricultural productivity, employment, aspects of the Strategic Watershed's resources. This will include an analysis of existing systems and suggest improvements in the information, institutional, or infrastructure aspects required to improve the monitoring system in the longer-term.
- Capacity-building to strengthen appropriate institutional infrastructure and capacity to implement the above activities at all relevant levels of key stakeholder groups (incl. government and community) and linking relevant academia/research groups/CSOs to the watershed activities.

- *Timing:* The short, medium, and long-term priorities of this 20-year Strategic Watershed Plan elements. Also indicate relevant items that may not be able to be financed under available budgets (or that would have more economies of scale combining across more than one Strategic Watershed) for the FPMU to explore with other ongoing or proposed initiatives in Nigeria.
- *Format:* The ePlans should include the relevant text with interactive maps, graphics, videos, and other interactive/multi-media aspects that can also be updated from time to time. They should be hosted online (with hosting and editing transferred to FMPU before the end of the assignment).

Key Deliverable: Strategic Watershed ePlans for each of the strategic watersheds. Discussions at initial stage and draft and final versions at Workshops and a Note on how comments were addressed at each stage.

Task 7 –Micro watershed ePlans

Develop the ~200 microwatershed plans targeted also with appropriate analytical (science-based) and meaningful stakeholder (opinion-based) inputs. These plans should be informed by the corresponding Strategic Watershed Profiles and Plans and should follow a similar process just downscaled to cover a smaller area and with greater emphasis on community-level activities.

Hydroshed Watershed Level 06, 07 and 12
Upstream of Hadejia-Nguru Wetlands Area
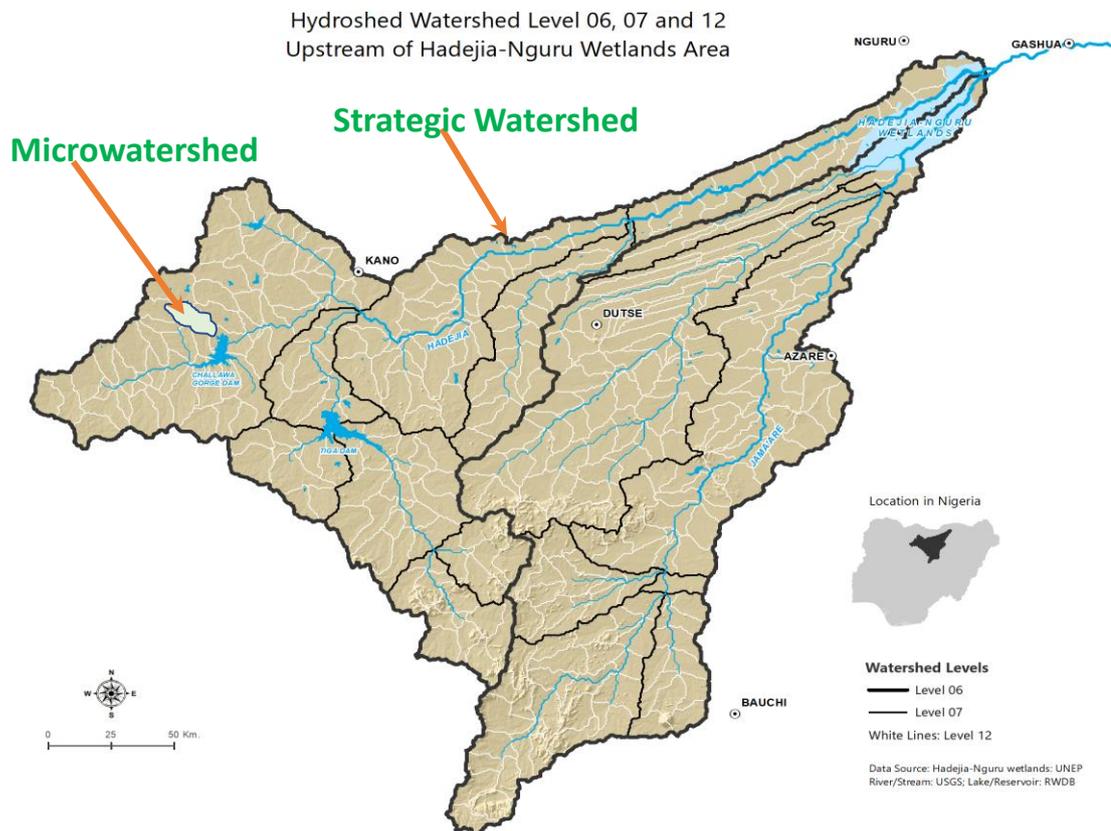
- Facilitate identification and data/knowledge inputs into selection of Micro watersheds and groups (anticipated to be about 200 in groups of 30+100+70 in subsequent years each group for implementation in about a 2 year period)
- Follow the process above customizing to the scale of the micro watershed here (~20,000 ha each)
- Develop all the Micro watershed Plans for climate smart and resilient investments and practices
- Initial facilitation in implementation of Micro watershed Plans by providing specialist expertise and training
- Water Sources Development Plan
- Water Resources Management Plan e.g. Water Allocation Plan and Regulation

Key Deliverable: Micro-watershed E-Plans for each of the selected micro watersheds. Discussion of draft at Workshop and a Note on how comments were addressed in the final report version.

Task 8 –Institutionalization and Outreach

Support the institutionalization of the watershed/landscape approaches in Nigeria through improved platforms, products and capacity-building/outreach.

- Develop a **public-domain Nigeria Landscapes Knowledge Base online platform** (built with responsive design elements to be viewable on mobile or desktop browsers) to access, visualize, and analyze relevant data at user-selected/defined spatial scales (e.g. Strategic Watershed, Microwatershed, State and other Administrative Areas, etc.) leveraging online data services and cloud analytics. This should also include an interactive knowledge base with links to key relevant public-domain full-text online accessible journal articles, reports, videos, websites and learning resources filterable by topic/region and type of resource. Develop a simple AI-facilitated chatbot to be able to query and visualize the knowledge base.
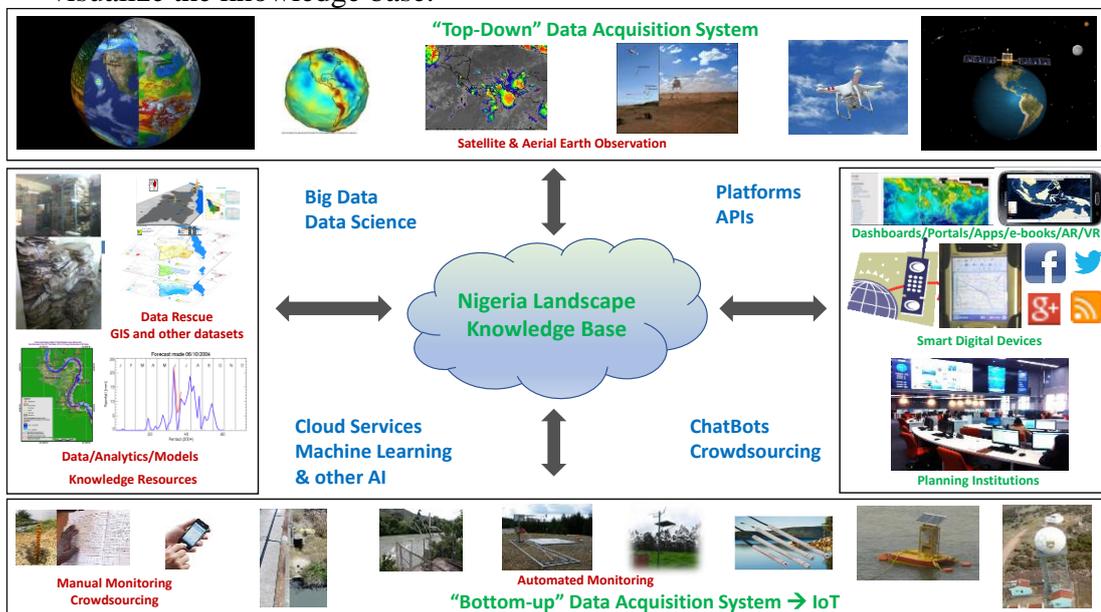
- Develop detailed digital documentation on all aspects of this work (incl. descriptions of metadata, methodologies, tools, systems, as well as multi-media help and "how-to" resources and tutorials/training materials)
- Build Capacity of the FPMU, SMPUs, MDAs and other stakeholders with regular virtual workshops and targeted in-person workshops on all aspects of this Consultancy. Provide inputs to FPMU on improving capacity with internship programs and outreach through eNewsletters, eReports, Hackathons, etc.
- Develop a sustainability and scale-up plan to help continuously scale-up/ update the knowledge base/eProfiles, analytics/tools including more integrated decision support systems, and Strategic Watershed/Microwatershed planning process and ePlans. Identify additional skill requirements, institutional infrastructure and collaboration (within and across MDAs and other institutions) and options to operationalize this over time.

6.0   DELIVERABLES AND TIMELINE

➢ **Expected Duration of the Assignment**
   The expected duration of this assignment is 24 months after contract signing.

Deliverable	Description	Timing after Signing (%)
Inception Report	As in Task 1 (especially Detailed plan and scheduling after initial meetings)	1 month (10%)
Watershed Knowledge Base	As in Task 2 (incl. Nigeria Landscapes Data Catalog, Strategic Watershed eProfiles)	3 months (15%)
Strategic Watershed ePlans	As in Tasks 3, 4, 5, 6 Planning Framework Watershed Analytics Strategic plans for all Strategic Watersheds (~20)	7 months (20%)
Microwatershed ePlans	As in Task 7 200 microwatershed ePlans	In 3 phases 30 (10%) – 10 months 100 (15%) – 13 months 70 (10%) – 16 months
Final Report	As in Task 8 Nigeria Landscapes Knowledge Base Platform Description of all services and final products	24 months

During the entire period of this assignment, brief monthly progress reports will be submitted, with quarterly and annual summaries. These will detail work performed in the previous period and planned for the next period, and highlight any issues for client consideration. All final reports of the consultancy will be submitted to the client at the end of the assignment in common digital formats (e.g. pdf, MS Word) along with data in relevant common data formats.

7.0   SELECTION CRITERIA FOR CONSULTANCY
This assignment will require a lead consulting firm with requisite experts/ members in each of the participating states providing technical support to the team.

7.1   Type of Consulting Firms
➢ All types of Engineering firms, Environmental & Natural Resources Management Consultants are eligible to apply for this consultancy project.

7.2   Types of Registration with Relevant Bodies
➢ The consulting firm should have updated registrations with relevant bodies such as COREN, COMEG, NSE, NES, COHORT and others as required by BPP.

7.3   Specific Experience of the Consulting Firm for the Assignment
➢ Experience in IWRM Principles and practices
➢ Experience in Water engineering projects.

➢ Experience in GIS (Environmental / hydrological)
➢ Experience in similar assignments in developing countries
➢ Desirable to have experience in Africa

7.4 General Experience of the Consulting Firm for the Assignment
➢ Experience in project designs and project management
➢ Similar working experience in the past 10years in Integrated Water Resources Management & water resources consultancy assignment.

7.5 Qualification and experience of the consultancy Firm
The Consultancy Firm to be employed to carry out this assignment must be renowned and well experienced in the areas of the assignment with at least 10 years of cognate experience in the sector.

7.6 Staff-Minimum Qualification and Experience
➢ **The Team Leader:** He/she should possess minimum of postgraduate qualifications (Master's Degree) either in IWRM, Water Resources Engineering, Irrigation Engineering, Civil Engineering, Environmental engineering, Natural Resources Management or a similar field and at least ten years of experience in the preparation, implementation and evaluation of multi-sector agricultural development projects. He/she should demonstrate ability to coordinate multi-disciplinary teams. The consultancy firm must have high level competence in latest Information Technology (IT) tools for development of data base and models.
➢ Agricultural/Irrigation Engineer: The specialist must have least a master's degree in agriculture, agronomy, and another related field with at least 10 years relevant experience. Additional certifications and experience will be an added advantage
➢ Water Resources/Civil Engineer: The specialist must have at least a master's degree in water resources engineering/civil engineering or equivalent with minimum of 10 years relevant experience in surface and ground water systems and good knowledge of small storage and managed aquifer recharge options. Additional certifications and experience in this field will be an added advantage
➢ Information Specialist: The specialist must have at least a master's degree with minimum of 5 years experience in information technology or equivalent with expertise in modern data services, web programming, open APIs, interactive visualizations and dashboards, interactive documents, and geographic information systems.
➢ Environmental Specialist: The candidate must have at least a master's degree in Environmental engineering/sciences or other related field with 10 years relevant experience (including on water quality, nature based solutions, wetland management). Additional certifications and experience in this field will be an added advantage.
➢ Development Economist: The candidate must have a postgraduate degree in Economics with experience in economic and financial analysis of costs and benefits in water resources related projects.
➢ Community Development Specialist: The candidate must have a degree in Communication, Psychology, Political Science and another related field with a post graduate degree. Additional certifications and experience in this field will be an added advantage.

There will be other experts from various disciplines and support staff that will be expected to be part of the consultant team. They must have high level competence in latest Information Technology (IT) tools for development of data base and models and an enthusiastic and constructive work attitude. Experience in areas related to government policy; familiarity with national public institutions would be highly advantageous; previous experience in institutional mapping related activities; skills in GIS and Remote Sensing (RS) would also be required.

8.0   REPORTING AND SUPERVISION ARRANGEMENTS

➢   In all aspects of this assignment, the consultant will report to the FPMU through the National Project Coordinator and work closely with the FPMU task team and Federal-level MDAs such as Nigeria Integrated Water Resources Management Commission (NIWRMC), National Centre for Remote Sensing, National Bureau of Statistics including other relevant MDAs. The consultant is to ensure proper monitoring to identify and correct any shortcomings in the implementation of the contract.

➢   **Intellectual Property Right**
All deliverables will be the property of the Federal Government of Nigeria. The consultant may not use the data gathered for its own research purposes, nor lease the data to be used by others, without the written consent of the Client.

➢   **Inputs to be provided by the Government**

The client will provide the following services and facilities:
- Access to earlier and on-going consultancy studies and reports
- Information on basin and sub-basin organizational structures, staff, implementation and management plans, and work programs
- Facilitation of interactions with FPMU, SPMUs, GoN MDAs on planning tools, knowledge products and planning methods; investment plans and programs; operation rules, guidelines and plans; and institutional structures, mandates and capabilities
- Timely feedback on Consultant outputs
- Release of funds and review of reports on satisfactory completion of relevant deliverables
- Some facilitation of travel to project area locations for field visits, information gathering, discussions with local planning and management agencies, stakeholder consultations and implementation support.
- Office space for 2-3 consultants at FPMU office.