IWMI
International Water Management Institute

Regional Strategic Roadmap
West and Central Africa

2024–2030

Driving Action • Propelling Change

Credits:

Photography
Front cover: Smallholder farmer uses irrigation to water crops on family farmland in Ada, Ghana. (Nana Kofi Aquah/IWMI)
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Acronyms and Abbreviations

AfDB	African Development Bank
AGRHYMET	Centre régional de formation et d'application en agrométéorologie et hydrologie opérationnelle (Regional Training and Application Center in Agrometeorology and Operational Hydrology)
BOAD	Banque Ouest Africaine de Développement (West African Development Bank)
COCOBOD	Ghana Cocoa Board
CORAF	Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles (West and Central African Council for Agricultural Research and Development)
CSIR-WRI	Council for Scientific & Industrial Research - Water Research Institute
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
FECA	Federal College of Agriculture
GIDA	Ghana Irrigation Development Authority
GWP/WA	Global Water Partnership West Africa
IBAM	Integrated basin/aquifer management
IFAD	International Fund for Agricultural Development
IWMI	International Water Management Institute
IWRM	Integrated water resources management
LCBC	Lake Chad Basin Commission
MELIA	Monitoring, Evaluation, Learning, and Impact Assessment
MINADER	Ministère de l'Agriculture et du Développement Rural (Ministry of Agriculture and Rural Development)
MINEE	Ministère de l'Eau et de l'Énergie (Ministry of Water Resources and Energy)
MOFA	Ministry of Food and Agriculture
MSWR	Ministry of Sanitation and Water Resources
NEPAD	New Partnership for Africa's Development
NIHSA	Nigeria Hydrological Services Agency
NiMet	Nigerian Meteorological Agency
OSS	Observatoire du Sahara et du Sahel (Sahara and Sahel Observatory)
RBO	River Basin Organization
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WASCAL	West African Science Service Centre on Climate Change and Adapted Land Use

Foreword by the Country Representative

As we confront escalating water challenges alongside emerging opportunities, the need for strategic, evidence-based action has never been greater. Across West and Central Africa, water insecurity continues to affect lives, livelihoods, and ecosystems, with women, youth, and marginalized communities bearing the heaviest burdens. Climate change, population pressures, environmental degradation, and institutional constraints intensify these risks, calling for not just reactive measures, but systemic transformation.

> **A hallmark of IWMI's work has been its commitment to translating research into action.**

During the previous strategic period, IWMI's West and Central Africa Regional Office in Accra solidified its role as a trusted source of science-based evidence and policy-relevant solutions for advancing water security at multiple scales. Through rigorous research, sustained stakeholder engagement, and collaboration with public and private partners, IWMI's West and Central Africa office supported integrated water resources management, climate-smart agricultural water solutions, circular economy approaches, and inclusive governance processes. These efforts improved decision-making, enhanced resilience, and strengthened alignment between water management, food security, and climate adaptation agendas across the region.

A hallmark of IWMI's work has been its commitment to translating research into action. Evidence generated in the last strategy cycle informed national and subregional policy processes, guided investment planning, and built institutional capacity for managing floods, droughts, and water quality challenges. Equally important has been IWMI's emphasis on inclusion, gender equality, youth engagement, and the needs of vulnerable populations being central to water governance and development.

The Regional Strategic Roadmap for West and Central Africa 2024–2030 builds on these achievements and aligns fully with IWMI's global strategy. It prioritizes reducing water-related risks, addressing inequalities, and promoting sustainable water management through applied science, strengthened governance, social inclusion, and expanded financing for water solutions.

As Country Representative for West and Central Africa, I am committed to ensuring this strategy becomes a living blueprint for change. Working with partners across our hubs, we will translate priorities into action and contribute to a more resilient, inclusive, and water-secure future.

Prof. Kehinde Ogunjobi
Country Representative - Ghana & West and Central Africa Subregion

1. Context

1.1 Water management in West and Central Africa

West and Central Africa span a wide range of agroecological zones, from arid and semi-arid areas in the Sahel to humid tropical systems in the south. West Africa alone comprises 15 countries, covering approximately 5.1 million km² and home to over 430 million people, a population projected to double by 2050. The region is endowed with major transboundary river basins, including the Niger, Volta, Senegal, and Congo, yet water insecurity is increasing.

Climate variability, rapid population growth, pollution, and weak institutional coordination have created a paradox in which water abundance exists alongside widespread scarcity. As a CGIAR Research Center, the International Water Management Institute (IWMI) supports evidence-based water management to inform policies and investments that strengthen water security, resilience, and sustainable development across West and Central Africa.

1.2 Development challenges

Water resources in West and Central Africa are under mounting pressure. Climate change has increased the frequency of droughts, floods, and extreme rainfall, with annual flood damage in West Africa estimated at billions of US dollars. Agriculture employs more than 60% of the population, yet it remains largely rainfed and highly vulnerable to climate variability. Across Africa, only about 19% of the estimated 39 million hectares suitable for irrigation are currently equipped.

Rapid urbanization—with urban populations growing by more than 4% annually—has overstretched water supply and sanitation systems, leading to groundwater depletion, pollution, and public health risks. Weak infrastructure, fragmented governance, limited transboundary cooperation, gender inequities, and poor data systems further constrain effective water management. The core challenge is not physical water scarcity, but weak management, underinvestment, and limited institutional capacity.

1.3 Trends and emerging opportunities

West and Central Africa is experiencing significant shifts in water resources management driven by climate variability, rapid urbanization, and rising food demand. Governments and development partners are increasingly prioritizing climate-resilient and climate-smart water systems, recognizing water as central to adaptation, disaster risk reduction, food security, and sustainable livelihoods. Investment is expanding in flood control, drought mitigation, watershed restoration, and integrated water storage systems that support year-round productivity. Transboundary cooperation across shared river basins is also strengthening, improving regional water governance.

At the same time, digital transformation is enhancing planning and risk management through remote sensing, artificial intelligence, early warning systems, climate services, and water information platforms. Small-scale, farmer-led irrigation—particularly solar-powered systems—is growing rapidly, boosting dry-season farming, rural employment, and incomes. Groundwater development is also receiving renewed attention as a reliable buffer against climate shocks.

In urban areas, circular economy approaches, including wastewater reuse and resource recovery, are gaining traction. Together, these trends create strong emerging opportunities to scale inclusive investment, mobilize climate and green finance, and build resilient, sustainable water systems across the region.

2. Achievements: Our Story of Impact

The IWMI Regional Office for West and Central Africa has been instrumental in advancing water security and climate resilience across the region. Through targeted research, innovation, and partnerships, our work has directly translated into measurable improvements in agricultural productivity, sustainable water management, and policy formulation.

2.1 Inclusive landscape management

Between 2022 and 2024, IWMI advanced inclusive landscape management under the Transforming Agrifood Systems in West and Central Africa (TAFS-WCA) regional integrated initiative. Co-designed inclusive landscape management plans were developed and officially endorsed in Ghana, Rwanda, Burundi, and Nigeria, engaging approximately 400 stakeholders across 20 communities to strengthen coordination and local governance. IWMI complemented these planning efforts with practical innovations, including an oil palm–legume restoration pilot in Ghana, where 22 farmers reclaimed 22 acres of degraded land.

In Nigeria's Doma-Rutu floodplain, training on tubewell drilling and solar-powered irrigation enabled dry-season farming across approximately 200 hectares. Supported by technical outputs and dialogues, these efforts delivered tangible environmental and livelihood benefits across the region.

2.2 Innovations in irrigation

IWMI is transforming smallholder agriculture in West Africa by combining affordable irrigation technologies with cutting-edge digital tools that improve water planning at both farm and basin scales. Thousands of farmers in Ghana and Mali have adopted solar pumps, drip irrigation systems, and water storage technologies. These innovations enable dry-season cultivation and have increased vegetable yields by 30–50%, allowing families to grow high-value crops year-round, boost incomes, and reduce vulnerability to drought.

IWMI's digital innovation, IRRILINE, developed in partnership with Farmerline and supported by the World Bank, helps Ghanaian farmers assess irrigation suitability, select appropriate technologies, and connect with suppliers and microloan providers. Designed with a strong focus on women farmers, the platform addresses barriers such as high upfront costs and limited access to information. Farmers using IRRILINE report improved water-use efficiency and reduced energy costs through precise irrigation scheduling. Its geospatial planning tool also guides government and development partners in identifying optimal sites for expanding small-scale irrigation, informing national strategy, and revealing over 100,000 hectares of untapped potential.

2.3 Digital water accounting for sustainable basin management

IWMI's West and Central Africa Regional Office is advancing digital water accounting as a core pillar of sustainable river basin management across the region and beyond. IWMI integrates Earth Observation data, hydrological models, and in situ information to develop transparent, spatially explicit, and decision-relevant water accounts that quantify water availability, consumption, depletion, and productivity across sectors. Using frameworks such as Water Accounting Plus (WA+), IWMI supports basin authorities and ministries in moving from fragmented data to evidence-based allocation, planning, and climate risk management.

Digital dashboards and basin platforms co-designed with national institutions enable users to visualize water balances, identify hotspots of overuse, assess irrigation performance, and explore trade-offs under climate and development scenarios.

In West Africa, for example, IWMI has enhanced transboundary water governance in the Volta Basin, where countries now jointly identify water-stressed areas and coordinate interventions using the digital dashboard. Officials from Ghana, Burkina Faso, Togo, Benin, Côte d'Ivoire, and Mali have received hands-on training to operationalize the tool, making regional capacity building a major achievement.

2.4 Circular economy solutions: Turning waste into value

IWMI has transformed waste into valuable resources across West Africa by converting sanitation and organic residues into inputs for farming and livelihoods. In Ghana and Burkina Faso, research on safe wastewater irrigation, composting, and nutrient recovery has progressed from pilot initiatives to city-level services and viable businesses. In Accra, the JVL Fortifer Compost Plant—built on over a decade of IWMI research—converts fecal sludge and organic waste into certified compost that rivals chemical fertilizers while diverting over 1,000 tonnes of waste annually. In Kumasi, IWMI's wastewater-to-aquaculture model reduced wastewater treatment costs and earned the city the 2019 Ghana Sanitation Challenge prize. IWMI's evidence has shaped Ghana's sanitation policies and national reuse standards, prompting cities such as Accra, Kumasi, and Tamale to invest in waste-to-compost facilities. Supported by major donors, these initiatives strengthen value chains, create jobs, improve sanitation, and advance circular bioeconomy hubs across the region.

> **IWMI has transformed waste into valuable resources across West Africa by converting sanitation and organic residues into inputs for farming and livelihoods.**

2.5 Empowering communities: Youth-led aquaculture for improved livelihoods and food security

IWMI is advancing aquaculture as a practical solution for improving nutrition, creating employment opportunities, and strengthening water management in West and Central Africa. In northern Ghana, IWMI partnered with the Fisheries Commission and the CGIAR Initiative on Aquatic Foods to transform underused community reservoirs into youth-led cage aquaculture enterprises. These interventions increased incomes, improved food security, and reduced seasonal migration among participating communities.

IWMI also supported the formation of cooperatives and trained participants in business development and governance, strengthening long-term sustainability. The success of this model is now informing Ghana's Aquaculture for Food and Jobs Programme. In urban Kumasi, IWMI facilitated the establishment and operationalization of a public–private partnership (PPP) business model that integrates catfish farming into wastewater treatment ponds, reducing treatment costs by about 30% while producing thousands of kilograms of fish. Together, these innovations demonstrate how aquaculture can deliver scalable, climate-smart development benefits across rural and urban water systems.

2.6 Strengthening water governance and social inclusion

IWMI's work in West and Central Africa is grounded in inclusive governance and social equity, ensuring that women, youth, and marginalized groups benefit from improved water systems. Projects apply gender-transformative research to identify gaps in access to land, water, finance, and training. Where inequities exist, IWMI implements targeted measures, such as allocating 40% of training slots to women and supporting credit schemes tailored to those without collateral. As a result, women now represent 39–40% of direct beneficiaries—a major shift from earlier years.

IWMI also strengthens participatory water governance. In Benin's Ouémé Basin, we facilitated the establishment of a basin water committee that included farmers, water users, and authorities, reducing conflicts and improving equitable water allocation. Regionally, IWMI supports bodies such as the Volta Basin Authority with data-sharing frameworks, flood-warning systems, and conflict-resolution tools to enhance cooperation.

IWMI research has shaped national strategies such as Mali's National Irrigation Strategy, Ghana's wastewater reuse guidelines, and regional sanitation policies. IWMI staff frequently serve on national advisory platforms, helping translate scientific evidence into action. This credibility draws investment from partners such as the World Bank, the International Fund for Agricultural Development (IFAD), and the African Development Bank (AfDB), enabling successful pilots to scale and driving long-term impact across the region.

3. Strategic Priorities

3.1 IWMI's global strategic research and innovation framework

IWMI emphasizes collective action and partnerships through four transformative levers: Water data science; water governance; gender, youth, and social inclusion; and scaling, finance, and investment. By integrating advanced data analytics, inclusive governance, social inclusion, and sustainable financing, IWMI's framework delivers robust, scalable solutions.

Aligned with global development goals, this strategy guides IWMI's research and innovation through 2030, fostering resilient water systems and informing policies for a just, water-secure future. This integrated approach ensures that our science delivers tangible impacts. We move from discovery to scale by co-creating solutions with communities and partners, piloting in real-world contexts, and mainstreaming through policy and investment.

The framework prioritizes key geographic regions while fostering global knowledge exchange. IWMI is seeking partners to invest in this critical agenda. Supporting this framework means enabling transformative solutions for sustainable agriculture, climate adaptation, ecosystem restoration, and social equity.

3.2 Our strategic priorities for 2024–2030

In response to regional needs, the IWMI Regional Office for West and Central Africa will focus on the following six regional priorities to contribute to our three global strategic outcomes: alleviating water risks, reducing global water inequalities, and managing water sustainably. These will be enabled by the four transformational levers described above.

3.2.1 Building resilient agri-food systems against climate change

IWMI will strengthen the resilience of agri-food systems in West and Central Africa by accelerating climate-smart agriculture, innovative water solutions, and inclusive financing through co-designed innovation bundles that bring together public- and private-sector actors. These bundles will deliver practical, scalable solutions that enhance food security and rural livelihoods.

The institute will optimize green and blue water resources through supplementary irrigation, water harvesting, and improved soil and fertility management to help smallholder farmers stabilize yields under climate stress. Digital water information systems and climate services will further support efficient water use and informed decision-making.

IWMI will deepen collaboration with governments, academia, nongovernmental organizations, civil society organizations, and the private sector to expand multiple-use water systems, smart landscape approaches, and youth-focused innovation portfolios. The institute will also scale low-emission, climate-adaptive irrigation systems and promote clean energy solutions, particularly solar energy. Our research will guide emission reduction strategies, strengthen access to climate finance, support Nationally Determined Contributions and National Adaptation Plans, and improve policy coherence across the water, energy, and agriculture sectors.

3.2.2 Reducing risks from droughts, floods, and compounding systemic water risks

IWMI's Regional Office for West and Central Africa will apply forecasting and early warning models to reduce the risks of water-related disasters, providing evidence and enabling the understanding of risks to facilitate multi-sector, multi-ministry, multi-stakeholder, and data-driven anticipatory action. IWMI will collaborate with countries to improve the in situ data collection system and develop context-relevant weather and climate information services, and hydrological models for early warning and early action systems. These systems will provide timely information on flood and drought risks, allowing decision-makers to take proactive measures for adaptation and mitigation. We will partner with a wide range of organizations to co-design water resilience strategies. We will integrate governance, economics, in situ data, artificial intelligence (AI)-based solutions, infrastructure, and nature-based solutions to address future water risks.

3.2.3 Enabling circular water and food economy innovations

IWMI will leverage bio-based and circular economy approaches in West and Central Africa to address water and agricultural challenges in sustainable and environmentally responsible ways. Strategic activities will focus on transforming and decarbonizing food systems through circular economy and nature-based solutions. This will include integrating circularity into agricultural value chains and minimizing food waste. Activities will also explore the role of circular economy principles in climate change adaptation and mitigation, and strengthen awareness and capacity building on circular bioeconomy of countries.

A key aspect of this transformation involves increasing freshwater availability through the safe reuse of wastewater. One objective is to enable sustainable food and water production by recovering water, nutrients, energy, animal feed/protein, and biomass from organic waste streams. The aim is to promote circular agribusinesses by scaling inclusive circular economy business models, expanding sustainable financing mechanisms, and supporting enabling business and market environments.

In addition, IWMI will safeguard water supplies and minimize the negative impacts of surface water and groundwater pollution and waste on human health and the environment by scaling circular, nature-based solutions and enabling policies for wastewater recycling and off-grid sanitation management. We will support countries in developing freshwater pollution information systems, while leveraging existing interventions, business models, and partnerships to reinforce policies that promote wastewater recycling and safe reuse.

3.2.4 Leveraging water for resilience in fragile and conflict-affected settings

Leveraging our expertise in integrated water resources management, IWMI will develop tools to optimize the potential of water resources, particularly transboundary water resources, including transboundary groundwater aquifer systems, to support sustainable development, thereby addressing some of the underlying drivers of conflict and migration.

IWMI will work with countries affected by climate change-induced migration to ensure migration dynamics are factored into policymaking. The IWMI office for West and Central Africa will also develop an integrated approach to study how migration can create opportunities and serve as an adaptation strategy in the context of climate change.

In addition, the institute will catalyze investment in research for the development of hydro-diplomacy and maximize international political, operational, and programmatic expertise in supporting peace, inclusivity, prosperity, and resilience in the region to facilitate transformative change.

3.2.5 Strengthening gender equity in water resource utilization and management

Transformative governance systems are needed in the region for more effective and equitable water governance and management. IWMI will conduct research, build capacity, and scale institutional innovations, strengthening governance processes and making water resources decisions fit for the future. This will be done by considering the full range of water values and objectives across multiple sectors and stakeholders and considering the trade-offs in integrated water resources management (IWRM) and integrated basin/aquifer management (IBAM) decision-making processes. This is to help balance competing demands for water resources to achieve sustainable and equitable outcomes. IWMI will strengthen knowledge management systems and data collection to support evidence-based decision-making in IWRM and IBAM.

IWMI is also committed to overcoming inequities related to uneven exposure to new technologies, limited representation of women in decision-making processes, and water risks for women and vulnerable communities, and ensuring equitable access to water resources. Gender equity and social inclusion will be integrated into IWMI's project portfolios, thus ensuring that water-related decisions are inclusive and responsive to the needs of all.

3.2.6 Supporting water infrastructure and allocation decisions

IWMI prioritizes the planning and management of water storage infrastructure for multiple purposes while addressing technical, economic, social, and institutional constraints. The focus is on optimizing existing systems, assessing irrigation performance and water productivity, and identifying new irrigation and aquaculture opportunities through suitability analyses. We promote landscape and infrastructure management plans, investment frameworks, and governance models that integrate sustainable agricultural practices and protect biodiversity.

The strategy encourages countries to develop river basin-scale master plans for shared, equitable water use. IWMI supports countries in identifying bottlenecks in infrastructure development and management. We also advocate for best management practices aligned with One Health principles to safeguard reservoirs, freshwater ecosystems, and their links to human and livestock health.

IWMI strengthens in situ water monitoring, remote sensing, and citizen science for ecosystem assessment in West and Central Africa. We integrate climate mitigation and adaptation into infrastructure planning and continue developing advanced water accounting and transboundary management tools to optimize basin-wide benefits through inclusive, participatory approaches.

4. Implementation Roadmap

In implementing its research priorities, IWMI focuses on four research hubs across West and Central Africa. These research hubs and satellite countries include: Ghana, covering Togo, Benin, and Côte d'Ivoire; Nigeria, covering Cameroon and Chad; Senegal, representing the Sahel hub that includes Mali, Burkina Faso, and Niger; and Rwanda (to be confirmed), covering the Democratic Republic of Congo (DRC) and Burundi. Key water resource basins of focus include the Senegal, Niger, Lake Chad, Volta, and Congo river basins, among others.

IWMI continues to strengthen existing partnerships with relevant donors working in the water sector; regional institutions such as the Economic Community of West African States (ECOWAS), Economic Community of Central African States (ECCAS), New Partnership for Africa's Development (NEPAD), and West and Central African Council for Agricultural Research and Development (CORAF); and national institutions such as government ministries engaged in water and agriculture. IWMI also collaborates with private-sector institutions, particularly on strategies involving markets and value-chain effectiveness.

IWMI currently has presence in Accra, Ghana and Abuja, Nigeria. To achieve stronger engagement with governments, basin authorities, and regional bodies, IWMI plans to establish two new offices: the first in Senegal to cover the four countries of the Sahel hub and the second in Rwanda to cover DRC, Rwanda, and Burundi. This expansion strategy intends to forge durable partnerships with relevant donors, regional and national institutions, and the private sector.

The implementation strategy for the IWMI office for West and Central Africa from 2024 to 2030 aligns with the IWMI organizational growth and performance strategy and applies relevant indicators to IWMI's Monitoring, Evaluation, Learning, and Impact Assessment (MELIA) framework. MELIA ensures alignment of Research for Development (R4D) actions with strategic goals through regular monitoring of project activities and tracking of indicators and impacts.

A dashboard compiles project and strategic goal indicators for coherent and timely tracking. Periodic evaluations assess the implementation process, progress, relevance, and effectiveness in terms of strategic goals. Contextual analyses and project report reviews inform adjustments to keep goals relevant. The MELIA process facilitates internal and external learning, fostering reflexive learning for process improvement at both project and strategic levels. The MELIA framework produces timely information for stakeholder engagement and feedback mechanisms.

Table 1 translates IWMI's strategic priorities in West and Central Africa into an operational implementation plan by mapping expected intermediate outcomes to concrete activities, target countries, delivery partners, and phased timelines. It clarifies who does what, where, and when, ensuring coordinated delivery, aligned partnerships, and measurable progress toward inclusive water security outcomes.

Table 1. Implementation Roadmap for West and Central Africa, 2024–2030

Expected outcomes	Key activities	Country	Partners (including intended beneficiary groups)	Delivery method and timeline
Priority 1: Building resilient agri-food systems against climate change				
Agricultural water productivity and farmer livelihoods are improved through scalable innovations in irrigated and rainfed agriculture.	Promoting the use of climate-smart interventions, water innovation bundles, and adaptive water infrastructure to transform agri-food systems and enhance water security at farm, community, landscape/watershed, national, and regional levels.	Ghana, covering Benin and Togo	*In Ghana:* Water Resources Commission; Volta River Authority; Hydrological Services Department; Ghana Irrigation Development Authority (GIDA); Council for Scientific & Industrial Research - Water Research Institute (CSIR-WRI); Ministry of Food and Agriculture (MOFA); Ghana Cocoa Board (COCOBOD); Ministry of Sanitation and Water Resources (MSWR)	Situational analysis and co-design (2024–27); pilot programs (2027–28); scaling (2029–30)
	Promoting and scaling transformative innovation bundles, and business and financial models for agri-food systems, circular economy, integrated water resources management (IWRM), and integrated basin/aquifer management (IBAM) at farm, community, landscape/watershed, national, and regional levels.	Ghana, covering Benin and Togo	Water Resources Commission; Volta River Authority; Hydrological Services Department; GIDA; CSIR-WRI; MOFA; COCOBOD; MSWR	Situational analysis and co-design (2024–27); pilot programs (2027–28); scaling (2029–30)
	Increasing agricultural production through sustainable water management in flood recession and dry season agriculture.	Nigeria, covering Cameroon and Chad	*In Nigeria:* Federal Ministry of Agriculture and Rural Development; Nigerian Meteorological Agency (NiMet); Nigeria Hydrological Services Agency (NIHSA); Federal Ministry of Water and Sanitation	Research and pilot programs (2026–28); scaling support in Cameroon and Chad (2028–30)

Table 1 *(continued)*

Expected outcomes	Key activities	Country	Partners (including intended beneficiary groups)	Delivery method and timeline
			In Cameroon: Ministry of Water Resources and Energy (MINEE); Ministry of Agriculture and Rural Development (MINADER) *In Chad:* Lake Chad Basin Commission (LCBC); Ministry of Environment, Water and Fisheries; Ministry of Production, Irrigation and Agricultural Equipment	
	Optimizing green and blue water through supplementary irrigation, water harvesting, and improved soil and fertility management.	Benin, Burkina Faso, Côte d'Ivoire, Mali, Senegal, Sierra Leone, and The Gambia	United Nations Development Programme (UNDP); United Nations Environment Programme (UNEP); Sahara and Sahel Observatory (OSS); Federal College of Agriculture (FECA), Nigeria; Global Water Partnership West Africa (GWP/WA); River basin organizations (RBOs); Multilateral partners; Bilateral partners; West African Development Bank (BOAD)	Applied research with piloting and scaling through partnerships; supported by project coordination and upscaling management

Table 1 *(continued)*

Expected outcomes	Key activities	Country	Partners (including intended beneficiary groups)	Delivery method and timeline
Priority 2: Reducing risks from droughts, floods, and compounding systemic water risks				
Risks and vulnerabilities to droughts and floods are significantly reduced through proactive adaptation and response strategies.	Developing strategies and infrastructure to mitigate the impact of droughts and floods on water availability and security.	Nigeria, covering Cameroon and Chad	*In Nigeria:* Federal Ministry of Agriculture and Rural Development; NiMet; NIHSA; Federal Ministry of Water and Sanitation *In Cameroon:* MINEE; MINADER *In Chad:* LCBC; Ministry of Environment, Water and Fisheries; Ministry of Production, Irrigation and Agricultural Equipment	Research and pilot programs (2026–28); scaling support in Cameroon and Chad (2028–30)
Future water-related risks are explicitly integrated into local, national, and regional climate adaptation policies and investment plans, as well as emergency preparedness and humanitarian response strategies.	Collaborating with countries to improve in situ data collection systems, develop context-relevant weather and climate information services, and develop hydrological models for early warning and early action systems.	Benin, Burkina Faso, Côte d'Ivoire, Mali, Senegal, Sierra Leone, and The Gambia	UNDP; UNEP; OSS; FECA; GWP/WA; RBOs; Multilateral partners; Bilateral partners; BOAD	Applied research with piloting and scaling through partnerships; supported by project coordination and upscaling management
Priority 3: Enabling circular water and food economy innovations				
Circular water management practices and innovative nonconventional water technologies are widely adopted, significantly mitigating water scarcity.	Catalyzing bio-based investments in circular management approaches, innovations, and technologies to enhance access to sustainable energy sources; improve sanitation and rainwater harvesting solutions; minimize water resource pollution; maximize wastewater reuse for food productivity; and strengthen alternative livelihoods at farm, community, landscape/ watershed, national, and regional levels.	Ghana, covering Benin and Togo	Water Resources Commission; Volta River Authority; Hydrological Services Department; GIDA; CSIR-WRI; MOFA; COCOBOD; MSWR	Situational analysis and co-design (2024–27); pilot programs (2027–28); scaling (2029–30)

Table 1 *(continued)*

Expected outcomes	Key activities	Country	Partners (including intended beneficiary groups)	Delivery method and timeline
Priority 4: Leveraging water for resilience in fragile and conflict-affected settings				
Communities affected by fragility, conflict, and migration become more resilient through conflict-sensitive and inclusive water management practices.	Promoting transformative governance systems: making future-fit water decisions by integrating the full range of water values and the objectives of multiple sectors and stakeholders and their trade-offs.	Nigeria, Cameroon, Niger, Burkina Faso, Mali, and Chad	*In Nigeria:* Federal Ministry of Agriculture and Rural Development; NiMet; NIHSA; Federal Ministry of Water and Sanitation *In Cameroon:* MINEE; MINADER *In Chad:* LCBC; Ministry of Environment, Water and Fisheries; Ministry of Production, Irrigation and Agricultural Equipment	Research and pilot programs (2026–28); scaling support in Cameroon and Chad (2028–30)
Priority 5: Strengthening gender equity in water resource utilization and management				
Evidence-based assessments of multi-sector trade-offs, sustainability impacts, and groundwater recharge inform water infrastructure planning and resource allocation decisions.	Implementing targeted training for women farmers, extension agents, and water officers on digital tools, irrigation management, climate services, and participation in Water User Associations and basin committees.	Nigeria, covering Cameroon and Chad	UNDP; UNEP; OSS; FECA; GWP/WA; RBOs; Multilateral partners; Bilateral partners	Applied research with piloting and scaling through partnerships; supported by project coordination and upscaling management
Improved understanding of inequalities in water security informs more equitable water practices.	Documenting good practices and lessons from country pilots and facilitating regional dialogues with ministries, basin authorities, and development partners to promote gender-responsive water policies and financing.	Benin, Burkina Faso, Côte d'Ivoire, Mali, Senegal, Sierra Leone, and The Gambia	UNDP; UNEP; OSS; FECA; GWP/WA; RBOs; Multilateral partners; Bilateral partners	Applied research with piloting and scaling through partnerships; supported by project coordination and upscaling management

Table 1 *(continued)*

Expected outcomes	Key activities	Country	Partners (including intended beneficiary groups)	Delivery method and timeline
Priority 6: Supporting water infrastructure and allocation decisions				
Water management practices explicitly ensure equitable access and benefits for all community members.	Developing and operationalizing digital/ artificial intelligence solutions for water modeling and accounting (including hydroeconomics); early warning and early action systems (including early financing); data and information services; decision support systems; and tools for integrated basin and aquifer management at subnational, national, and regional levels.	Sierra Leone and Nigeria, covering Cameroon and Chad	UNDP; UNEP; OSS; FECA; GWP/WA; RBOs; Multilateral partners; Bilateral partners	Applied research with piloting and scaling through partnerships; supported by project coordination and upscaling management
Evidence-based assessments of multi-sector trade-offs, sustainability impacts, and groundwater recharge inform water infrastructure planning and resource allocation decisions.	Strengthening knowledge management systems and data collection to support evidence-based decision-making in IWRM and IBAM.	Sierra Leone and Nigeria, covering Cameroon and Chad	UNDP; UNEP; OSS; FECA; GWP/WA; RBOs; Multilateral partners; Bilateral partners	Applied research with piloting and scaling through partnerships; supported by project coordination and upscaling management

5. Partners and Funders

Delivering the West and Central Africa Regional Strategic Roadmap relies on strong, trusted, and long-term partnerships. As a regional hub, the IWMI Regional Office in Ghana collaborates closely with governments, institutions, communities, and development partners to ensure that research translates into tangible development outcomes. Progress is co-created through joint knowledge generation, collaborative innovation piloting, locally driven capacity strengthening, and partners that help scale proven solutions. Partnerships therefore form the backbone of implementation, learning, sustainability, and long-term impact, enabling countries and institutions to sustain progress well beyond IWMI's direct involvement.

5.1 National partners

The IWMI office in Ghana works closely with ministries and agencies responsible for water, agriculture, climate, environment, and planning, including:

- Water resources commissions
- Irrigation development authorities
- Meteorological agencies
- Environmental protection agencies
- National planning bodies
- Ministries responsible for water, agriculture, environment, sanitation, climate change, and energy
- Subnational governments involved in catchment management, irrigation development, sanitation planning, and landscape restoration

5.2 Innovation and research partners

IWMI works with institutions that co-create knowledge, host research, and build national capacity, including:

- Council for Scientific & Industrial Research - Water Research Institute (CSIR-WRI) in Ghana
- West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL)
- Regional Training and Application Center in Agrometeorology and Operational Hydrology (AGRHYMET)
- Leading universities across West and Central Africa
- National research institutes and technical agencies
- Civil society organizations and community groups representing farmers, women, youth, and vulnerable populations

5.3 Regional and basin collaboration partners

The following entities IWMI collaborates with are critical for transboundary water governance, risk reduction, and shared resource management:

- Volta Basin Authority
- Niger Basin Authority
- Senegal River Basin Development Authority
- ECOWAS
- African Ministers' Council on Water (AMCOW)

5.4 Development partners (donors and multilateral entities)

These partners fund, scale, and institutionalize research-based solutions:

- World Bank
- AfDB
- IFAD
- European Union (EU)
- German International Cooperation Society (GIZ)
- The Swedish International Development Cooperation Agency (Sida)
- The Netherlands
- Bill & Melinda Gates Foundation
- United Nations agencies (Food and Agriculture Organization of the United Nations [FAO], United Nations Development Programme [UNDP], United Nations Environment Programme [UNEP], UNICEF, World Food Programme [WFP], UN-Habitat, etc.)

5.5 Private sector partners

Private sector partners play a key role in turning innovation into viable, sustainable solutions. Key partners include:

- Irrigation equipment suppliers
- Solar energy companies
- Digital agriculture platforms
- Waste-to-value enterprises
- Aquaculture and fisheries businesses

These partnerships help expand investment, generate jobs, and scale innovations, while ensuring equity, environmental sustainability, and public benefit remain central.

International Water Management Institute

CGIAR RESEARCH CENTER

The **International Water Management Institute** (IWMI) is an international, research-for-development organization that works with governments, civil society and the private sector to solve water problems in developing countries and scale up solutions. Through partnership, IWMI combines research on the sustainable use of water and land resources, knowledge services and products with capacity strengthening, dialogue and policy analysis to support implementation of water management solutions for agriculture, ecosystems, climate change and inclusive economic growth. Headquartered in Colombo, Sri Lanka, IWMI is a CGIAR Research Center with offices in 17 countries and a global network of scientists operating in more than 55 countries.

Vision
A water-secure world

Mission
Research and innovation in partnerships for collective action that advance the transformation of water systems for sustainable, just and climate resilient development.

www.iwmi.org

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