AfriAlliance list of needs

WU: Water utilities

RBO: River Basin Organisation

Need family	Need sub-family	New number for solutions
1- Sustainable management and allocation of **fresh water** resources	1-1. Information to support decisions for allocation.	1
		2
		3
	1-2. How to maintain water level for navigation?	4
	1-3. How to reduce fresh water demand?	5
2- Sustainable management of **groundwaters**	2-1. Regulations for GW allocation.	6
	2-2. Information about GW quality, quantity and localisation.	7
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		9
3- **New** ways to find or produce **water resources**	3-1. Information on rainwater harvesting and storage.	10
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	3-2. Which new sources for water production?	12
		13
4- Supply enough	4-1. Information on freshwater quality, quantity and localisation	14
		15
		16

Drinking Water of good quality to protect population health	4-2. Definition of quality standards for DW	17
	4-3. Increase efficiency of DW supply	18
5- **Re-use** of treated wastewater as new water resource	-	19
		20
		21
6- Management of **wastewater sludges**.	-	22
7- Assessment, control and reduction of **water-borne diseases**	7-1. Information on water-borne diseases linked to DW quality	23
		24
	7-2. How to control and reduce insect breeding?	25
		26
	8-1. How to increase awareness of <u>local communities</u> and involve them in water protection under CC?	27
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8- **Raise awareness, communicate and train** all the stakeholders about the challenges linked to water under CC		30
	8-2. Development and communication of Codes of Good Practices concerning water, hygiene and sanitation, at local scale.	31
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	8-3. How to increase awareness of farmers and involve them in water protection under CC?	34
	8-4. How to increase awareness of all stakeholders and involve them in water protection under CC?	35
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9- Prevent, control and reduce **water pollution**	9-1. Development and implementation of policies to prevent water pollution.	38
	9-2. How can WU improve the quality of both raw water and treated water?	39
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10- Use of **Environmental Impact Assessments** (EIA) to understand and mitigate impacts of human activities on water resources.	-	41
		42
11- Protection, management and restoration of wildlife and **ecosystems** for increasing biodiversity and ensuring the production of ecosystem services in order to help mitigate CC impacts.	11-1. Protect and restore ecosystems on the basis of scientific knowledge and promote protection actions.	43
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	11-2. Protect wetlands in order to increase biodiversity and maintain ecosystem services.	47
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		49
12- Increase knowledge on **invasive species** to help control them	-	50
13- Include CC in water policy to support **IWRM**	-	51
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14- Create **partnerships** and **financial insights** to support IWRM and CC-related activities	-	53
		54
15- **Monitoring water** quality and quantity	15-1. Establishing regional monitoring networks.	55
	15-2. Establishing rules and methods to monitor water quality and quantity.	56
		57
16- Analyse and share weather and water monitoring data to **forecast** and prioritize actions		58
		59
		60
17- **Build** water utilities able to **resist to floods**	-	61
18- Increase **aquaculture** productivity, sustainability and resilience to CC	18-1. How to support a sustainable and productive auaculture?	62
		63
	18-2. Policies and guidelines on fisheries management and monitoring.	64
		65
		66

19- Increase **agriculture** productivity and resilience to CC, while mitigating its impacts	19-1. How to increase agriculture productivity and food production?	67
		68
	19-2. How to optimize water use for agriculture in arid areas?	69
	19-3. How to support small agriculture notably with new economic models?	70
20- Retoration and protection of **soils**.	-	71
21- Use **sustainable sources of energy** (renewable instead of fossil ones) to supply water	-	72
22- Ensure supply of affordable and reliable **electricity** in urban and rural areas.	-	73
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		76

CSO: Civil Society

Need initially expressed by stakehokders during WS and interviews and desk analysis
RBOs need information to support decisions on how to use water resources to adapt to CC
RBOs need to set criteria to allocate water sustainably and equitably to sustainable manage available water resources
RBOs need to coordinate the use and protection of fresh water resources to ensure water for municipal, agricultural and industrial uses
RBOs need to maintain water levels in navigable waters to support the economy
WU need to increase the reuse of treated water, and find ways to deal with sludge, to reduce demand for fresh water and the release of poorly treated or untreated water in water bodies that causes water pollution
RBOs need to set regulations for groundwater extraction and protection to sustainably manage groundwater
WU need to manage groundwater quality and quantity to ensure water supply for the population without depleting aquifers
RBOs need to carry out groundwater assessments to sustainably manage groundwater
CSOs need information on the condition and location of groundwater resources to support groundwater management and water access by communities
RBOs need to increase storage of rainwater to have more water during dry seasons
CSOs need to increase rainwater harvesting and storage to increase water supply
WU need to use non-conventional water sources and reduce water wasting to meet the demand
WU need to find ways to supply water despite declining water resources
RBOs need to maintain or enhance water quality and quantity to ensure water security
A&R need to conduct research on water quality & quantity in order to support efforts for improving water quality and supply
CSOs need to assess water quality to help prevent water-borne diseases

WU need to meet quality standards for drinking water, and spread hygiene practices among the population, to reduce the occurrence of insect and water-borne diseases and to protect the health of the population
Water Utilities (WU) need to be more efficient in supplying enough drinking water for the (growing) population to meet their mandate within tight budgets
WU need to increase the reuse of treated water, and find ways to deal with sludge, to reduce demand for fresh water and the release of poorly treated or untreated water in water bodies that causes water pollution
WU need to use non-conventional water sources and reduce water wasting to meet the demand
CSOs need to promote water conservation practices and the re-use of wastewater to reduce water demand
WU need to increase the reuse of treated water, and find ways to deal with sludge, to reduce demand for fresh water and the release of poorly treated or untreated water in water bodies that causes water pollution
CSOs need to assess water quality to help prevent water-borne diseases
A&R need to undertake research on the control of water-borne diseases to protect the health of the population
RBOs need to control insect breeding and water-borne diseases to protect the health of the population
WU need to meet quality standards for drinking water, and spread hygiene practices among the population, to reduce the occurrence of insect and water-borne diseases and to protect the health of the population
CSOs need to engage the youth and other community members to increase people's capacity to manage water resources and help design strategies for CC adaptation
CSOs need to work with communities to balance conservation objectives and community interests in order to increase local involvement in the implementation of initiatives to protect water resources
CSOs need to train volunteers and communities in practices for improved water management as well as sanitation and hygiene to reduce the spread of diseases

A&R need to increase the knowledge base of the population on water and CC issues to empower people to participate in water management
WU need to meet quality standards for drinking water, and spread hygiene practices among the population, to reduce the occurrence of insect and water-borne diseases and to protect the health of the population
WU need to increase the knowledge of the population about how unsanitary conditions at household or community level deteriorate the quality of potable water and contribute to the spread of diseases and infrastructure damage
CSOs need to promote water, sanitation and hygiene practices by communities to reduce the incidence of water-borne diseases
RBOs need to train farmers to maximize the use of water for irrigation for increased agricultural production given the uncertainty of future water availability
RBOS need to run campaigns and training to help increase the knowledge of the population and the public and private sector on the effects that CC will have on water resources, livelihoods, ecosystems and the economy.
RBOs need more participation of stakeholders and citizens in actions aimed to protect ecosystems and water resources, and to reduce GHG emissions
CSOs need to increase the involvement of stakeholders (incl. communities) in the protection of water sources and aquatic ecosystems to maintain or improve water quality and quantity
RBOs need to enforce policies to prevent water pollution and use environmental assessments to understand and mitigate impacts of agriculture, livestock and aquaculture to produce more food without affecting water resources and aquatic ecosystems
WU need to find ways to control and reduce water pollution to supply enough water of good quality and reduce treatment cost
WU need to increase the reuse of treated water, and find ways to deal with sludge, to reduce demand for fresh water and the release of poorly treated or untreated water in water bodies that causes water pollution

RBOs need to enforce policies to prevent water pollution and use environmental assessments to understand and mitigate impacts of agriculture, livestock and aquaculture to produce more food without affecting water resources and aquatic ecosystems
RBOs need to support the use of EIA for projects affecting water resources, river basins and aquatic ecosystems to control environmental degradation and mitigate impacts on water quality and quantity
WU need to participate in the protection of river basins, wetlands, catchment areas, and ecosystems in general to maintain the hydrological cycle and increase the resilience of ecosystems and society to CC
CSOs need to promote the protection, restoration and management of ecosystems to increase awareness of the role of ecosystems in increasing resilience to CC
CSOs need to work with stakeholders to protect biodiversity and improve wildlife management to maintain the resilience of ecosystems to CC
A&R need to generate knowledge on ecosystems and land management to revert environmental degradation and to improve the protection of ecosystems for increased resilience to CC
RBOs need to reduce the loss of biodiversity, wetlands and other ecosystems to maintain ecosystem services and help mitigate CC
CSOs need to support wetland conservation and management to ensure the provision of wetland ecosystem services which contribute to maintaining water quality and quantity, support livelihoods and wellbeing, and mitigate the impacts of floods and CC
A&R need to produce knowledge that will help control invasive species and support biodiversity conservation and management, in order to improve ecosystem resilience to CC and maintain the ecosystem services that benefit people
A&R need to produce knowledge that will help control invasive species and support biodiversity conservation and management, in order to improve ecosystem resilience to CC and maintain the ecosystem services that benefit people
RBOs need to (create and) implement policy to achieve integral regional management of water and the environment
CSOs need to advocate the inclusion of CC in water policy to support IWRM and sustainable water management

CSOs need to promote the creation of partnerships for implementing IWRM, supporting institutions (policy and strategy) and aligning the efforts of NGOS, donors and governments to support adaptation to CC
CSOs need to access financial resources for funding CC-related activities
RBOs need to establish and maintain regional monitoring networks for acquiring analysing and sharing data to produce local and regional forecasts
WU need methods and equipment to assess water quality and quantity and plan management actions
CSOs need information on surface and groundwater water quality and availability to increase population access to drinking water
WU need methods and equipment to assess water quality and quantity and plan management actions
CSOs need to prioritize and plan, based on reliable forecasts, their activities in the short and in the long-term
A&R need to create and/or strengthen networks for generating, analysing and sharing weather and water data, knowledge and tools to support CC adaptation and mitigation
WU need equipment and infrastructure that resist the impacts of floods, to extend its operational life, reduce maintenance costs, and ensure continuous water supply
RBOs need insights in order to provide guidance on how to increase aquaculture productivity (e.g. seed, feed, control of diseases, permaculture) for increased yield given the impacts of CC.
CSOs need to support the sustainable management of fisheries to help increase food security
RBOs need to decide how protect fish breeding sites, establish no-fishing zones, control illegal fishing, monitor fisheries and how to base fisheries management on research and ecosystem management to restore fish stocks
A&R need to feed their knowledge and insights on aquaculture into policy and guidelines to improve food supply and fish farming incomes
A&R need to provide information, knowloedge and insights on how to improve fisheries-related policy and management

RBOs need to enforce policies to prevent water pollution and use environmental assessments to understand and mitigate impacts of agriculture, livestock and aquaculture to produce more food without affecting water resources and aquatic ecosystems
A&R need to conduct research on how to increase agricultural productivity in view of CC to improve population health and the livelihoods of (smallholder) farmers
CSOs need to disseminate methods to optimize water productivity in arid areas to help increase agricultural resilience to CC
CSOs need to disseminate practices that support the diversification of economic alternatives and increase food production to improve community resilience to CC
A&R need to feed information, knowledge and insights on how to restore soil properties (e.g. infiltration, nutrient content) into policy and its implementation in order to improve infiltration and increase food productivity
WU need to reduce the dependency of water production and distribution on fossil fuels to help reduce GHG emission
RBOs need to improve the effectiveness of environmental impact assessments to provide affordable and reliable electricity in rural and urban areas while reducing the environmental and social impacts of hydropower and energy projects
A&R need to increase the application of research outputs on IWRM, water and CC to inform stakeholders and to support policy and initiatives that will guide development within the constraints of CC **- too general, maybe need to be precised**
CSOs need to facilitate the creation of strategies to manage risk for the population and for water resources **à reformuler car on ne comprend pas que le risque est lié aux impacts du CC (inondations et secheresse)**
WU need to recover costs to sustain and upgrade operations**??? À reformuler?**

A&R: Academia and Research

Comments