



WATER RESOURCES COORDINATION CENTRE  
CENTRE DE COORDINATION DES RESSOURCES EN EAU  
CENTRO DE COORDENAÇÃO DOS RECURSOS HÍDRICO



## Guidelines for the development of water infrastructure in West Africa



**Manual**



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October 2012

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# Acronyms

2iE	International Institute for Water and Environmental Engineering
AfDB	African Development Bank
ALG	Liptako-Gourma Authority
BO	Basin organisation
CILSS	Permanent Interstate Committee for Drought Control in the Sahel
CTE	Committee of Technical Experts (of ECOWAS)
E&S	Environmental and social
EA	Environmental assessment
ECOWAS	Economic Community of West African States
EIA	Environmental impact assessment
ESA	Environmental and social assessment
ESIA	Environmental and social impact assessment
ESIAR	Environmental and social impact assessment report
ESMP	Environmental and social management plan
ESS	Environmental and social studies
FAO	United Nations Food and Agriculture Organisation
GWP	Global Water Partnership
IAIA	International Association for Impact Assessment
ICOLD	International Commission on Large Dams
IOWater	International Office for Water
IRR	Internal rate of return
IUCN	International Union for the Conservation of Nature
IWRM	Integrated Water Resources Management
LDP	Local development plan
NBA	Niger Basin Authority
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental organisation
NPV	Net present value
OECD	Organisation for Economic Co-operation and Development
OMVG	Gambia River Development Organisation
OMVS	Senegal River Development Organisation
PAP	Project affected people
PFCM	Permanent Framework for the Coordination and Management of IWRM
RCCWR	Regional Council for Consultation on Water Resources
RP	Resettlement plan
SIFEE	French-speaking International Secretariat for Environmental Assessments
SONABEL	Société Nationale d'Electricité du Burkina
ToR	Terms of reference
UNDP	United Nations Development Programme
VBA	Volta Basin Authority
VRA	Volta River Authority
WAEMU	West African Economic and Monetary Union
WB	World Bank
WCD	World Commission on Dams
WRCC	Water Resources Coordination Centre (ECOWAS)
WSA	Water and Sanitation for Africa
WWF	World Wide Fund for Nature

# Preface

Although West Africa is well endowed with water resources, they are poorly distributed and largely under-utilised. Climate change and intense human pressure from population growth and urbanisation have prompted plans to mobilise some of this water, establishing large water infrastructure on the region's main watercourses to tackle food and energy deficits and prevent flooding. As most of these watercourses pass through more than one country, cross-border basin authorities need to be closely involved in such projects to help avoid conflict and ensure that users in all the different countries concerned share the benefits of such initiatives. In 2009, when several large dam projects were in the pipeline, the ECOWAS Water Resources Coordination Centre (WRCC) initiated a two-year dialogue on large water infrastructure projects, and set up a panel of experts to facilitate the process. After wide-ranging discussions with representatives from various governments, basin organisations and civil society groups, the panel identified a set of guidelines for good practice in this field. These guidelines are presented in this manual, which should be widely distributed to actors at every level from governments to the grassroots, so that all concerned parties can contribute to the harmonious development of the sector and hence to greater regional integration within our economic community.

**Dr Marc Lapodini Atouga**

ECOWAS Commissioner for Agriculture, Environment and Water Resources

# 1

## The regional context of ECOWAS

West Africa is in the process of introducing integrated water resource management (IWRM) across the region. In 2004, ECOWAS set up a Permanent Framework for the Coordination and Management (PFCM) of Integrated Water Resources Management in West Africa, and established the Water Resources Coordination Centre (WRCC). Through the framework, a strategic plan for the period 2007-2015 was prepared and adopted which outlined two strategic themes for interventions on the governance of cross-border water resources:

- ♦ support to cross-border basin organisations and assistance with IWRM processes in different basins; and
- ♦ advancing regional integration in the water sector.

The WRCC has developed a regional framework and a range of tools to enable countries and basin organisations to make quicker and more concerted progress towards concrete actions to implement IWRM. The main tools for integration include:

- ♦ creating a regional policy framework for the water sector;
- ♦ managing and sharing information; and
- ♦ facilitating dialogue on large infrastructure projects in the water sector in the ECOWAS area.

The WRCC is helping implement the water resources policy for West Africa (WRPWA) through two main areas of intervention:

- ♦ thematic component 2 of the policy, which aims to promote investment in the water sector in order to reduce poverty and promote socio-economic development in the region;
- ♦ thematic component 3 of the policy, which aims to promote cooperation and regional integration. “The objective of this component is to develop relations between States, basin organisations and regional bodies in order to ensure concerted, integrated, sustainable and peaceful management of water resources in West Africa.”<sup>1</sup>

The African Union appointed ECOWAS as the structure responsible for coordinating and monitoring the implementation of NEPAD projects in West Africa. Therefore, this initiative also contributes to the implementation of NEPAD policy on infrastructure.

The guidelines presented in this manual were developed through a regional dialogue on large water infrastructure instigated by the WRCC in 2009, and conducted in close collaboration with the ECOWAS departments responsible for energy, agriculture and the environment.

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1. Extract from the additional act regarding the adoption of the water resources policy for West Africa.

# 2

## How the guidelines were developed

### 2.1 Regional context – mobilising water resources without causing friction

Water is a major development issue in ECOWAS member States, and the international community is working alongside them in their efforts to provide universal access to drinking water, sanitation, food security and energy, and to promote IWRM in these countries, especially in cross-border basins.

In recent years the region has become a virtual byword for poverty, instability, intense demographic pressure on natural resources and severe environmental degradation. Large watercourses present particular political problems due to the fact that they flow across national borders. Their management is also complicated by disparities between different countries within a single basin (in political orientation, economic development, infrastructure capacity, etc.), which can lead to inefficiencies and missed economic opportunities.

This gloomy picture belies the fact that the ECOWAS area enjoys numerous advantages and development opportunities that could benefit all its inhabitants. One of these is substantial water resources. The reason why the region suffers from chronic shortages of water, food and energy is because rainfall distribution is temporally and spatially uneven, potential resources are under-used and existing resources are poorly managed. Effective investment in water, food production and energy requires a concerted approach to the use of existing water resources; the kind of coordinated and balanced management that could also act as a catalyst for political and economic integration across the region.

The current rate of fresh water consumption in West Africa accounts for a small proportion of the total available renewable resources in the region: just 4 per cent of an estimated 1,000 billion m<sup>3</sup> or more. The Joint Monitoring Programme<sup>2</sup> reported that 35 per cent of the population lacked access to drinking water in 2010, and that 74 per cent did not have access to improved sanitation. It is also estimated that around 12 per cent of potentially irrigable land is irrigated at present. There is therefore huge potential for development. Analysis of trends in the demand for agricultural water between now and 2025 show that internal renewable water resources would allow sufficient irrigation to achieve food security in staple crops (with estimated demand set at 59 billion m<sup>3</sup>).<sup>3</sup> It is not so much the availability of water that is hampering agricultural development in West Africa, as the lack of infrastructure to store and transport water to crops and protect agricultural land from flooding. The region's hydro-electric potential is also under-exploited, with only 16 per cent of the estimated 25,000 MW within ECOWAS used.<sup>4</sup>

West Africa contains very large water systems that originate in humid tropical regions and carry huge volumes of water into arid or semi-arid regions. Cross-border water resources account for about 80 per cent of the surface water in West Africa, making countries in the sub-region highly interdependent, and increasing the potential for conflict over the use of water resources. Cross-border basin organisations could provide an excellent framework for national and international efforts to apply IWRM principles that transcend national frontiers.

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2. <http://www.wssinfo.org/data-estimates/table>

3. Water for the 21<sup>st</sup> century. Vision to action for West Africa. Global Water Partnership West Africa Technical Advisory Committee (GWP-WATAC). Ouagadougou, 2000.

4. White paper for a regional policy geared towards access to energy services for rural and peri-urban populations in order to achieve the Millennium Development Goals, ECOWAS-WAEMU, 2005.



Large water infrastructure projects often involve several countries and are consequently a potential source of conflict, yet they can also contribute to regional integration if they are undertaken within a consultative framework. These projects should be designed to take account of factors that will significantly affect water resources and how they are used in the medium and long term: climate change and variability, demographic growth, increases in the price of agricultural products, land acquisition, energy development, pollution, and so on.

**Composition of the steering committee that guided the whole process of developing the recommendations:**

- ✦ ECOWAS Water Resources Coordination Centre (WRCC);
- ✦ West African Economic and Monetary Union (WAEMU);
- ✦ African Network of Basin Organisations (ANBO);
- ✦ West African Water Partnership (GWP-WA);
- ✦ World Wide Fund for Nature (WWF);
- ✦ International Union for the Conservation of Nature (IUCN);
- ✦ Chair of the regional Committee of Technical Experts (CTE);
- ✦ Chair of the Regional Council for Consultation on Water Resources (RCCWR).

## 2.2 The process of dialogue on water works

This manual is the outcome of a process that was launched in 2009 in order to provide basin organisations and States with the tools to facilitate dialogue, support the formulation and implementation of their investment plans, and foster socio-economic development in West Africa. It should be noted that certain cross-border basin organisations in the sub-region have been operating for several decades, while others are newly established.

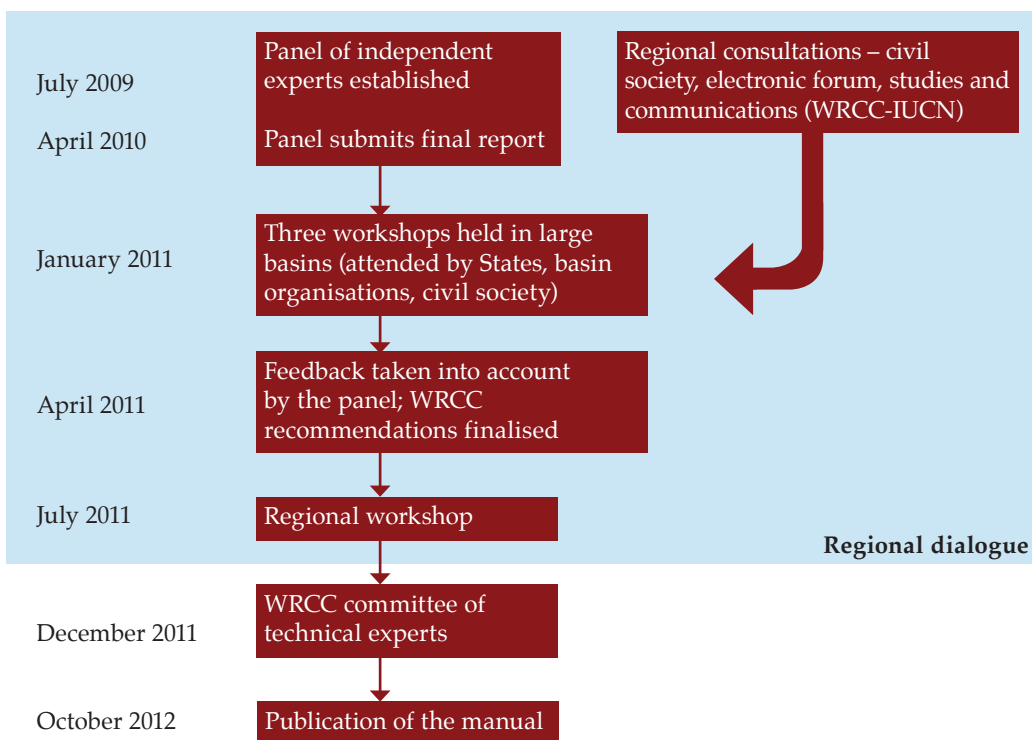
The global objective of all these programmes is to contribute to the harmonious development of ECOWAS member States and regional integration through dialogue on infrastructures in the water sector. This dialogue took place at the regional, national and local levels, and focused on several specific projects.

In 2009 the WRCC set up a panel of independent experts to provide an initial analysis of the West African experience, and identify good practices in the development and implementation of cross-border water infrastructure projects in the region. This panel was composed of seven specialists in the fields of water resources, law, economics, dams, agronomy, participatory approaches and environmental assessment.

The panel's recommendations were presented to a small group (WRCC, steering committee, basin organisations) in April 2010, and then discussed during three rounds of consultations with States and civil society organisations from the five main basins in the ECOWAS area. The WRCC reconvened the panel in April 2011 to incorporate and respond to the suggestions, criticisms and comments made during the consultations, and to develop the recommendations into a proposal to be submitted for approval by the PFCM.

The WRCC also started a two-year process of consultations with civil society in 2009, to support and enrich the regional dialogue. This process, which was steered by the International Union for the Conservation of Nature (IUCN), had several components: (i) an electronic forum was established and case studies undertaken to feed into the debates; (ii) regional communication and sharing of information and documents (website, leaflets); (iii) regional forums were held with civil society groups to enable them to formulate their own recommendations; (iv) civil society recommendations and comments on those of the panel were presented during formal basin-level consultations; (v) a documentary film was produced. (See <http://www.dialoguebarrages.net> for more information on this process and its outputs).

This broad process of regional dialogue on the panel's recommendations is summarised in the figure below and in Annex 1.



### 2.3 The approach taken by the independent panel

The panel of experts set up by the WRCC and facilitated by the International Office for Water (IOWater) was tasked with identifying good practices in the development and implementation of large water infrastructure projects, in order to ensure that better account is taken of the environmental, economic and social aspects of these initiatives. The project steering committee selected three study sites for the analysis of decision-making processes: Manantali, an existing structure in the River Senegal basin; Kandadji, a planned structure in the River Niger basin; and Bui, an ongoing construction in the Volta basin. The panel worked on this analysis from July 2009 to April 2010, drawing on members’ experiences with other regional and global projects to enrich its findings and recommendations.<sup>5</sup>

The main focus of the panel’s work was the environmental and social aspects of water infrastructure projects, their main stages, and decision-making processes at certain key stages, namely:

1. project identification and planning;
2. the preliminary framework for environmental and social impact assessments and related plans;
3. environmental and social impact assessments;
4. transforming plans into legal acts; and
5. implementing social and environmental plans.

The panel’s analysis of different projects in the region confirmed that basin organisations are crucial in facilitating regional cohesion and ensuring that costs and benefits are shared equitably between participating countries, thereby limiting the risks of conflict inherent in cross-border dam projects. The panel noted that making watersheds into integrated development hubs can

5. Internal WRCC document, (2010).

generate real benefits for those concerned, and that this requires fully operational basin organisations with a long-term vision and a corresponding strategy.

A number of basin organisations have developed effective tools to facilitate consultation between different States. In the panel's view, those that have not yet done so would do well to learn from existing experiences in West Africa, so that they can contribute to dialogue on cross-border infrastructure projects and help avoid tensions and conflict over water development projects. Basin organisations have every interest in leading consultations with the countries concerned – and involving all stakeholders in the process from the earliest stage, at the project identification phase.

Infrastructure projects involve numerous actors, all of whom have a key role to play at various stages of the decision-making process: the communities affected by the project, civil society organisations, the State technical services, the consultants involved in studies and the project developers. The panel recommended that key actors are identified and involved from the outset of a project, at the project identification and planning stage. To enable them to interact effectively, different stakeholders need the type of mechanisms for consultation and participation set out in the guiding principles of IWRM.<sup>6</sup>

The detailed recommendations prepared by the panel of experts in April 2010 were structured around seven main themes:

1. Affirming the critical role of basin organisations in developing and implementing cross-border projects.
2. Involving affected populations as project beneficiaries.
3. Identifying and accepting uncertainties in order to better manage risks.
4. Ensuring that all stakeholders play their respective roles.
5. Optimising the profitability of large water works in West Africa.
6. Developing and sharing existing experiences within the framework of ECOWAS.
7. Adopting a regional framework for environmental and social assessments of cross-border projects.

After the consultations, it was decided in April 2011 to drop the third theme and incorporate some of its measures into the other themes. The panel also modified 32 of the proposed measures, abandoned 3 and added 15, leaving 30 unchanged. At the end of the process, 6 themes, 25 recommendations and 77 measures were proposed to the WRCC as regional guidelines agreed by stakeholders in the dialogue.

The following six themes were retained:

1. Affirm the critical role of basin organisations in the developing and implementing trans-boundary projects (3 recommendations; 10 measures).
2. Involve affected populations as project actors, partners and beneficiaries (4 recommendations; 18 measures).
3. Ensure that all actors involved in project development play their respective roles (3 recommendations; 8 measures).
4. Assess and optimise the profitability of large water infrastructure in West Africa (6 recommendations; 13 measures).
5. Capitalise and share existing experiences within the framework of ECOWAS (2 recommendations; 9 measures).
6. Adopt a regional framework of reference for the environmental and social assessment of trans-boundary projects and delivery of their associated plans (7 recommendations; 19 measures).

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6. The Dublin principles (1992). See, for example [http://www.iwrm.eu/index.php?option=com\\_content&view=category&layout=blog&id=37&Itemid=65&lang=fr](http://www.iwrm.eu/index.php?option=com_content&view=category&layout=blog&id=37&Itemid=65&lang=fr)

# 3 Guidelines



## 1 Affirm the critical role of river basin organisations (BO) in developing and implementing transboundary projects

Recommendations	
1.1 Promote river basins as integrated development hubs	
Measures	Rationale
1.1.1 Strengthen the role of BOs in every stage of development projects.	<p>Where basin organisations (BOs) exist and fulfil their role, basins are developed in accordance with the global vision of member States. This has several advantages: (1) the whole basin benefits from a development project that contributes to regional cohesion; (2) costs and benefits are shared between States; (3) States in the basin are obliged to consult and inform each other about all water projects, thereby reducing the risk of conflict.</p> <p>Where BOs exist but do not play a significant role in coordinating studies for large projects or mobilising resources, there is a risk that conflict will arise between States in the basin, and that projects may not contribute to regional cohesion.</p> <p>BOs contribute to regional cohesion and cost- and benefit-sharing between States, thereby reducing the risk of conflict.</p>
1.1.2 Ensure that BOs are institutionally and financially functional and sustainable.	BOs cannot fulfil their mission properly without secure and regular financial support from their member States.
1.1.3 Establish BOs where none exist, in both basins and important sub-basins.	A basin is considered as a reference spatial unit, which is itself composed of more or less homogenous natural units. It is technically easier and financially more viable to use a single master plan coordinated by a basin agency to develop the resources within such units, as in the Mono, Comoé/Bia/Tano and Cavaly/Cestos/Sassandra basins.
1.1.4 Ensure that each basin has a coherent long-term strategy (shared vision, master plan, sustainable development plan for the basin, 5-year investment programme, etc.).	Developing shared water resources is a much more complex undertaking than developing national watercourses, and should be recognised as such. Existing strategies and large-scale programmes have proved effective in mobilising States, donors and local populations.
1.1.5 Put in place mechanisms for equitable cost- and benefit-sharing between States and with local populations.	Water is a resource that has many uses and is shared by numerous different actors and States. Equitable cost- and benefit-sharing helps develop economic potential in a non-conflictual environment.

<b>Recommendations</b>	
<b>1.2 Urge/encourage States to abide by regional policies and strategies</b>	
<b>Measures</b>	<b>Rationale</b>
1.2.1 Develop projects in accordance with regional IWRM frameworks and policies validated by BOs and/or regional integration institutions.	States, regional integration institutions, BOs and donors have developed a wide range of frameworks and policies. Following regional frameworks and policies helps harmonise project approaches, reduces the risk of duplication and contributes to a long-term vision for the development of the basin, thereby contributing to sub-regional cohesion.
1.2.2 Develop projects that are consistent with BO and ECOWAS policies, strategies and operational plans.	Large infrastructure projects take 10 to 15 years to materialise, and involve significant financial resources. Because of the development issues and impacts associated with this type of undertaking, large water infrastructure projects have profound political, economic, social and environmental effects on the basins concerned. Therefore, the decision to implement a large water infrastructure project in any basin should be based on an over-arching vision for development formulated for the basin and by ECOWAS.
<b>Recommendations</b>	
<b>1.3 Ensure that BOs play a greater role in organising cross-border consultations</b>	
<b>Measures</b>	<b>Rationale</b>
1.3.1 Inform and consult stakeholders in the basin from the very outset of the project.	Some basin organisations and States have jointly formulated consultation tools to develop basins and international watercourses in a sustainable and coordinated manner. When these tools work, they help develop projects that are acceptable to countries upstream and downstream from the works. This type of consultation should be extended to include all the actors concerned.
1.3.2 Conduct formal consultations with affected States before the detailed project design phase so that their concerns can be taken into account before it is finalised.	Tensions or conflict can arise if one or more States downstream feel that they were not given sufficient advance warning of the project. At worst, they may succumb to political pressure to revise their original plans, thereby incurring higher costs and delaying completion of the works.
1.3.3 Initiate public consultations in the basin as soon as the ESIA starts, to enable stakeholders to participate in the decision-making process.	Effective participation by all stakeholders involved is one of the four principles of IWRM.

## 2 Involve affected populations as project actors, partners and beneficiaries

### Recommendations

2.1 Involve affected communities as partners, and ensure that they benefit directly from the dam throughout its life cycle

Measures	Rationale
2.1.1 Assign the direct benefits generated by the dam (agricultural land, electricity, drinking water, grazing areas, fisheries, etc.) to affected communities.	Ensuring that local people benefit directly from the project helps them to be seen as an integral part of the initiative throughout its lifetime, reduces the likelihood of it being rejected and avoids their dependency on the State, which may last for several generations.
2.1.2 Ensure that local people are given appropriate information at every stage of the project cycle.	Lack of information and transparency makes local people mistrustful of projects. Specific consultations with messages delivered in a format and language accessible to the target audience facilitates effective popular participation in decision-making processes.
2.1.3 Inform those affected by the project about standards and best practices for consultation, and consult them in accordance with these norms. They should be told which institution is responsible, how the consultation will be organised, whether it will involve public hearings, local monitoring committees, and so on.	Civil society in general, and affected populations (PAPs) in particular, should be made aware of, and consulted in accordance with the methods described in a consultation plan, which should be consistent with good practice (World Bank (WB) practices, for example). This helps reduce challenges and contestations and improve support for the project's objectives. Several national ESIA procedures include public hearings and enquiries, which are effective tools for consulting with PAPs.
2.1.4 Ensure effective and informed popular participation in every stage of the decision-making process.	Water infrastructure projects are primarily vehicles for social change. Failure to bring resettled populations on board in the initial stages of a project often creates social conflict and dependency on the State, and sometimes triggers social movements claiming more benefits. This can generate <i>ex post</i> transaction costs that are difficult to manage.  If the consultants' technical proposals are to succeed, they need to be supported by the local population. It is important not only to inform and consult local people, but also to seek and obtain their agreement and consent on major decisions that concern them. This process often entails establishing and/or funding an interface to ensure that discussions are properly organised (possibly one or more NGOs).
2.1.5 Resettlement programmes should take account of intangible/cultural assets by recognising rights of access to land and ensuring that people are compensated in cash or kind for the loss of traditional land use.	The panel's analysis shows that people are not always compensated for the loss of these kinds of asset, despite the fact that they have real value for local communities, and that it is a requirement of donor procedures (such as the World Bank) to recognise their importance.
2.1.6 Ensure good governance and transparency in the implementation of plans for affected populations.	Good governance and transparency are fundamental to the proper implementation of different plans. They ensure effective and informed popular participation in decision-making processes, help create a peaceful setting and build trust between the different actors concerned, thereby helping ensure that plans are implemented successfully.

<p>2.1.7 Support local stakeholders involved in consultation processes (affected populations, local governments, customary authorities, community-based organisations, women’s associations, NGOs, etc.) to ensure their effective participation in decision-making processes.</p>	<p>Ensuring that local structures are closely involved in consultations fosters support for the project and helps prevent potential disagreements.</p>
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**Recommendations**  
 2.2 Ensure that people’s living standards are better than they were before the dam was constructed

<b>Measures</b>	<b>Rationale</b>
<p>2.2.1 Establish a baseline reference for the living standards of affected communities (displaced and host communities, those upstream and downstream from the project, etc.).</p>	<p>It is fairly easy to identify people/villages that will need to be moved from the site of the reservoir or dam, but less easy to identify early in the process the host villages, transhumant pastoralists and fishermen, and those affected downstream (who may change according to the project variant). There is a tendency to identify host villages only at the resettlement plan stage; however, they should be clearly identified during the ESIA, and the impacts of resettlement on these villages considered in order to involve them in the information and consultation phases and ensure successful resettlement. A good analysis of the baseline socio-economic situation will make it possible to measure subsequent changes in the living standards of affected communities, to ensure that they have improved.</p>
<p>2.2.2 Identify legitimate community representatives who are capable of leading negotiations and signing agreements.</p>	<p>In order to contractualise ‘demonstrable agreements’ (2.2.4), it is important to identify people who legitimately and legally represent the affected communities at the start of the ESIA, and determine the process that will be followed in order to obtain their agreement.</p>
<p>2.2.3 Negotiate and agree the content of each plan with representatives from affected communities. This process should specifically involve women and vulnerable groups.</p>	<p>Although most projects conduct consultations and information sessions on their plans, the formal agreement of local people is not always required. This negotiation, conducted by legitimate representatives of the population, will help local people take control of their own future and ensure that funds are allocated for actions that will meet the needs expressed by affected communities.</p>
<p>2.2.4 Contractualise plans through ‘demonstrable’ agreements between the project developer and representatives of affected communities, with possible recourse to a ‘moral’ guarantor (retired judge, religious or customary dignitary, State ombudsman, etc.) to execute them and identify the competent court to resolve any conflict that may arise.</p>	<p>Resettled populations often complain, rightly or wrongly, that the State has not kept its promises or fulfilled its commitments. Ensuring that representatives of local populations and the developer or the State are involved in formalising plans helps clarify commitments, set out each party’s rights and responsibilities and establish them on a legal basis. Plans will no longer be considered as benefits unilaterally issued by the project developer, but as documents negotiated between partners whose respective responsibilities oblige them to abide by their provisions.</p>



<p>2.2.5 Harmonise the implementation of compensation measures to avoid unjustified discrepancies between different projects within one country or within a cross-border project.</p>	<p>People affected by different projects may receive different types of compensation (depending on the donor, for example). Compensation may also differ from one country to the next in a cross-border project. Such discrepancies should be avoided as they can create a sense of injustice.</p>
<p>2.2.6 Prepare a compensation plan based on detailed, objective and up-to-date assessments of affected people's assets. This should take account of the risks associated with large dam projects, and include a monitoring mechanism.</p>	<p>A compensation plan based on a rigorous initial analysis of the situation and a reliable inventory of assets are essential in order to avoid claims at a later stage of the project.</p>
<p>2.2.7 In conjunction with local people, design and validate adapted production techniques to support resettlement programmes and local development plans. These should be based on a combination of traditional knowledge and innovative techniques.</p>	<p>Changing production systems (switching from river fishing to lake fishing or from rain-fed to irrigated farming) requires support and agreement from the population concerned. Some traditional techniques have proved their worth in practice (especially anti-erosion measures), while research has developed ways of improving production with minimal environmental impacts. Combining these two types of technique, especially through field schools, helps avoid 'parachuting in' development approaches and helps intensify production on a sustainable basis.</p>

**Recommendations**

**2.3 Minimise the risks of livelihood degradation inherent to the implementation of resettlement and local development plans**

Measures	Rationale
<p>2.3.1 Plan one or more contingency/emergency fund to better manage unforeseen and/or adverse social effects.</p>	<p>Even the best laid plans are subject to unexpected events: supply timelines may delay the construction of host villages, in which case alternative solutions have to be considered; epizootic diseases may reduce the expected income from livestock production; migrant labourers involved in project construction may bring serious health problems. Therefore, it is important to have one or more emergency and contingency fund in place so that emergency corrective measures can be implemented to deal with this type of unexpected event.</p>
<p>2.3.2 The ESIA should take account of the way that affected communities function, the foreseeable changes arising from the project, and local traditions (customary authorities, rules governing access to natural resources and land, conflict resolution, etc.).</p>	<p>Many of the issues raised by resettlement revolve around complex land tenure arrangements and traditions. Although land may legally belong to the State, its daily use is often governed by tradition; and while land may be privately or collectively held, cadastral registers rarely exist. ESIA's should take account of all these issues. In areas where natural resources are already scarce, flooding several hundred square kilometres of land will inevitably increase pressure on remaining land resources. Good land is often already fully occupied, and host villages do not always belong to the same ethnic group as the communities that are being resettled. If the project creates a pole of attraction, it may also lead to an influx of immigrants. These matters will need to be mediated by the customary authorities, who will have to adapt to the new social situation.</p>

## Recommendations

### 2.4 Remedy injustices and damage associated with previous dams in order to resolve disputes and allay resentment

Measures	Rationale
2.4.1 Legal process to provide restitution for damages (legal losses).	Living conditions in affected communities may be adversely affected if the project developer fails to properly implement plans (damage in the legal sense). As local peoples' commitment to a project is determined by its projected benefits, unfulfilled obligations will cause direct or indirect material or moral damage that requires compensation. Recompense or other appropriate forms of compensation for damage should be paid to cover all losses arising from failure to execute plans properly.
2.4.2 Social process to remedy injustices (non-legal losses).	Local living conditions may have deteriorated as a result of previous social injustices. Remedying the situation is primarily a matter of social justice, in that the dam should not contribute to the impoverishment of communities living around it while improving the well-being of urban populations and industries far from the site who suffer no adverse impacts from the dam. It is also a matter of how effectively national policy on dams is implemented, as redressing previous injustices helps restore local people's confidence in the State, not only in the way that the dam in question is managed, but also for future water infrastructures. Therefore, it is a matter of resolving any previous social liabilities and conflicts, and preparing the ground so that new projects can be implemented in a more peaceful climate.

### 3 Ensure that all actors involved in project development play their respective roles

Recommendations	
3.1 Identify the actors concerned and clarify their roles	
Measures	Rationale
3.1.1 Identify all actors who may be involved in the project development process and specify their respective responsibilities. They may include basin organisations, States, local governments, development partners, developers, consultants, civil society organisations, local communities, financial institutions, etc.	<p>The panel stresses the importance of several factors: (i) identifying and characterising all stakeholders involved in project development activities, and especially in the consultation process. This should be done in the initial project identification phase to ensure that no actors are left out of the different consultation phases; (ii) clearly identifying the responsibilities of each actor so that they can play their role in the process.</p> <p>Some national regulations take explicit account of this identification procedure, with a requirement for a particular section of the ESIA report to list and describe the stakeholders concerned.</p>
3.1.2 Define the role of consultants and financial institutions, who should not replace developers or States in consultations or other activities.	<p>The consultants' main mandate is to carry out the technical and economic studies and M&amp;E activities relating to the project. They will usually be asked to present the findings of these studies in a form that is easily understandable for all the stakeholders involved in the consultation and decision-making, by preparing specific communication materials (non-technical summaries, summary documents, PowerPoint presentations, websites), and even making presentations before the consultation workshops.</p> <p>The situation is more delicate when the ToR make the consultancy firm responsible for organising and conducting the consultations with stakeholders, running consultation meetings/workshops and responding to stakeholders' comments.</p>
3.1.3 Ensure that the project developer establishes a multi-disciplinary team as early as possible in the planning phase, to ensure that there is the necessary capacity to support the project.	<p>Developing large water infrastructures raises many complex issues, which can only be properly addressed if competent and stable teams are in place to support the project and establish an institutional memory. These teams will require constant capacity building to enable them to support project development.</p>

## Recommendations

### 3.2 Ensure better coordination between water-related sectors/institutions at every level

Measures	Rationale
3.2.1 Promote and establish regular collaboration at the highest level between the ministries and technical services involved in the project.	<p>There is often no coordination between the different sectors involved in water resources. The ministries responsible for these sectors differ from one ECOWAS country to another. Integrated water resource management requires good coordination mechanisms between the departments involved in managing water resources at every level.</p> <p>For this to happen, water should be managed at the level of each basin rather than by sector, and development should be implemented through programmes rather than projects.</p>
3.2.2 Strengthen vertical and horizontal dialogue at regional, national and local levels (ECOWAS/BOs/States, national/local authorities, local authorities/local communities, and between local communities).	The weak link in the decision-making process is the coordination of initiatives between different levels of decision-making and implementation. This type of coordination facilitates information sharing and collaboration at every stage of the project (study, construction, operation).
3.2.3 Establish synergies between the body representing civil society in ECOWAS and equivalent bodies within BOs.	ECOWAS has established a sub-regional consultative council on IWRM, in which civil society is represented. It is important to create synergies between this body and other basin organisation bodies involving civil society to ensure that civil society interventions in decision-making processes are coherent and consistent.

## Recommendations

### 3.3 Encourage BOs to strengthen their partnerships with civil society and provide the necessary means to do so

Measures	Rationale
3.3.1 Strengthen the capacity of civil society.	Civil society cannot participate effectively in decision-making processes without capacity building. Proven expertise in large water infrastructure projects would make it a strategic partner for BOs and improve the preparation, design and operation of dams.
3.3.2 Promote effective civil society participation in decisions regarding the development of basins.	All decisions regarding the development of basins affect people's lives. Civil society has a key role to play in this respect, as it is better able to grasp the real issues associated with development due to its sound understanding of the socio-economic situation in the basin. It can also exert pressure to ensure that local people's legitimate concerns are taken into consideration.

## 4 Assess and optimise the profitability of large water infrastructure in West Africa

Recommendations	
4.1 Consider the conditions for the financial viability of water projects	
Measures	Rationale
4.1.1 Promote a development model that encourages public-private partnerships in funding and operating water works.	Hydro-agricultural initiatives are very expensive and generate little return on financial investments. While they can rarely justify a large-scale development on their own, the energy component is often both financially and economically promising. However, relying solely on this component to make a return can be risky as effective demand can change. In these conditions, economically viable development and financial initiatives should be promoted to encourage the private sector to get involved in funding and operating these water works.
4.1.2 Include a profitability requirement in the ToR for technical and economic feasibility studies, to encourage consultants to propose innovative solutions.	The technical design of hydro-agricultural works does not necessarily include a requirement for the works to be sufficiently profitable to ensure the long-term sustainability of the agricultural land concerned. The internal rate of return (IRR) is often calculated once the development options have been decided and the typology of the plots is well defined. To allow some interplay between the technical options and the financial performance of a development, it is recommended that the technical criteria that determine the project design take account of the value of the IRR so that there are several variants for the profitability criterion.
4.1.3 Look into other options that would achieve the same production objective, including alternatives based on more extensive and alternative approaches (dry season crops, photovoltaic energy, wind or tidal power, etc.).	<p>The decision to construct a large dam should not be an end in itself, but represent the best solution for achieving a clear production and development objective for agricultural production, power supply, etc.</p> <p>Once the development objective has been clearly defined, all technical possibilities should be explored in order to identify the most suitable technologies to resolve the problem, as recommended by the World Commission on Dams.</p>
Recommendations	
4.2 Optimise the economic profitability of existing or planned developments by making them more multi-purpose	
Measures	Rationale
4.2.1 Include all associated activities in sectors related to the project objectives (hydro-electricity, irrigation) and other secondary sectors (fishing/fish-farming, flood-recession crops, pastoral activities, etc.) in the economic evaluation of existing and planned water projects.	Promoting the multi-purpose aspect of water works through their various components (energy, agriculture, pastoral activities, fish-farming, etc.) increases project profitability and reduces the cost to consumers. However, large dam projects have not systematically evaluated their impacts by taking account of all their direct, secondary and indirect effects.
4.2.2 Assess the opportunity costs associated with single-purpose developments.	The economic performance of water works is clearly not optimised when they are only used for a single purpose (such as hydro-power). It is recommended that feasibility studies provide some assessment of the opportunity costs associated with this option.

## Recommendations

### 4.3 Ensure that recurring project costs are covered

Measures	Rationale
4.3.1 Include a budget line to cover recurring costs.	The assumption that water projects will be profitable is not always confirmed when the structure becomes operational. Although they often run at a loss (as with Manantali), feasibility studies rarely contain any clearly defined measures for covering recurring costs. In reality, it seems that the depreciation of infrastructures such as dams, primary irrigation canals, etc. often generates significant costs for farmers and other water users and consumers. This precludes the introduction of fees to cover running costs and finance the maintenance, renewal, replacement or extension of structures in the long-term. However, if these recurring costs are not covered, infrastructures will fall into disrepair, and rehabilitation may ultimately cost as much as the original construction works. This raises questions about the profitability of the project, however good its initial financial indicators may have seemed.
4.3.2 Establish and/or improve methods for collecting fees.	In order to uphold the IWRM principles adopted for basins in West Africa, a system for collecting fees needs to be established and improved to ensure that water and water infrastructures remain sustainable in the long term. The current situation in some agricultural areas in West Africa indicates that insufficient fees are being collected to optimise the long-term management of such developments.
4.3.3 Share recurring costs between the project developer (State or basin organisation), operators and users (electricity suppliers, farmers, etc.).	At basin level, it is essential to develop a financial model for sharing costs that reflects the roles and responsibilities of each actor. This would not only help clearly identify financial flows, but also ensure that users/beneficiaries contribute to the budget lines needed to ensure that the project is sustainable (and possibly repay the debt).

## Recommendations

### 4.4 Refine the financial and economic analysis of projects

Measures	Rationale
4.4.1 Present realistic project profitability scenarios in the financial analysis, based on optimistic, average and pessimistic hypotheses.	Feasibility studies often present very optimistic forecasts for project profitability, usually based on trend scenarios that lead to good results. Yet the current situation in certain water developments shows a significant discrepancy between projected project profitability and the actual results recorded since implementation. It would therefore be advisable for project feasibility studies to be based on several scenarios, in order to get better idea of the assumptions and risks associated with a project.
4.4.2 Prepare an economic analysis that considers both realistic profitability scenarios and the value added by each economic agent (including States) and value chain.	Although large agricultural water infrastructure projects do not have an obvious financial interest (return on capital investment is just acceptable in the best operating conditions for a project), they are a source of significant economic growth for West African countries. While the finances need to be calculated in order to assess the financial relevance of large projects, their economic profitability should also be evaluated in order to better understand their economic impacts and consequences. These assessments should take account of: <ul style="list-style-type: none"><li>◆ the criteria for economic profitability;</li><li>◆ macro-economic results for each agent and value chain;</li><li>◆ micro-economic results for each target group.</li></ul>
4.4.3 Economic analysis should take account of the fluctuations and reality of the market, and the uncertainties associated with certain economic parameters.	The market (effective demand) seems to be the sole gauge of financial profitability in project feasibility studies, despite the fact that: <ul style="list-style-type: none"><li>◆ feasibility studies do not include any market studies; demand is evaluated in a linear fashion and based on demographic trends;</li><li>◆ all production is considered to be consumed;</li><li>◆ prices are treated as stable over time (in Manantali, for example, calculations are based on rice costing \$500 per tonne, when it actually cost around \$200 at the time of the <i>ex post</i> project evaluation);</li><li>◆ previous experience with similar projects is not taken into account.</li></ul> All these factors should be taken into consideration in new project studies to ensure that these works have a substantial impact on development.

## Recommendations

### 4.5 Ensure that the project and its benefits are sustainable in the face of climate change

Measures	Rationale
4.5.1 Feasibility studies should include hydrological scenarios based on predicted climate change in the region.	Climate models predict that the intensity and frequency of exceptional events will increase across the region, accompanied by increased temperatures and lower rainfall. If it has not already been done, a sensitivity analysis should be undertaken to prepare for the impacts of these changes, so that reservoir management plans can be developed for very dry or very wet scenarios. The sensitivity analysis will naturally need to take account of the increased demand for water associated with population growth, and stakeholders should be informed of management plans based on predicted long-term change.

## Recommendations

### 4.6 Economic assessments of existing and planned developments should take account of environmental and social costs and benefits

Measures	Rationale
4.6.1 Economic assessments should take account of all the costs and benefits associated with the environmental and social support measures outlined in different plans (ESMP, RP, LDP, etc.), as well as those relating to residual and cumulative impacts.	<p>Economic calculation takes little account of the costs associated with the environmental and social support measures outlined in different plans (ESMP, RP, LDP, etc.). This approach is simplistic and unsatisfactory.</p> <p>While it is difficult to put a price on certain categories of environmental costs, it would be interesting to have more detailed economic assessments that take account of all the residual impacts and, if need be, find objectively verifiable indicators that could be used to assess intangible costs.</p>



## 5 Capitalise and share existing experiences within the framework of ECOWAS

### Recommendations

5.1 Use the accumulated experience with large dams in West Africa to optimise the outcomes of existing projects and improve the design of new ones

Measures	Rationale
5.1.1 Make all the available information on large-scale works easily accessible, particularly by developing an on-line data base of ESIA documentation from projects in the region.	<p>In order to build on the accumulated experience in E&amp;S management of cross-border dams in West Africa, information needs to be easily accessible to all the actors concerned (basin organisations, consultancy firms, researchers, NGOs, etc.).</p> <p>During the course of its work, the panel noted that information is: (i) extremely scattered among developers, basin organisations, financial institutions, technical departments, etc.; and (ii) difficult to access, especially where records of decisions and minutes of consultations directly involving developers are concerned.</p>
5.1.2 Learn from experiences in West Africa and elsewhere with (i) project development, (ii) participation by affected communities and civil society, (iii) taking account of social and environmental issues.	<p>West Africa has accumulated a considerable body of experience in this field, having constructed about 50 cross-border dams in the past four decades. Using this knowledge to develop useful tools for decision-makers and practitioners involved in E&amp;S management would be beneficial for ongoing projects and help improve existing initiatives. West Africa also has much to learn from other experiences around the world.</p>
5.1.3 Conduct <i>ex post</i> evaluations of all aspects of large projects every 10 years.	<p>Retrospective (<i>ex post</i>) studies on E&amp;S management of existing dam projects are helpful in (1) assessing the way that studies are conducted; (2) taking stock of their economic and financial outcomes and environmental and social impacts; (3) determining the relevance of the impact assessments and effectiveness of proposed mitigation measures.</p> <p>If these studies are taken into consideration, they have the potential to (1) improve both the process and content of technical and economic studies and environmental and social assessments, and the implementation of related programmes for new projects; and (2) adapt the management of facilities to their natural and socio-economic context.</p>
5.1.4 Establish a network to share experiences with large dams in the ECOWAS area, mainly by encouraging national and/or regional forums on dams and development.	<p>The issues involved in planning and managing large dams are so complex that no single institutional actor will be able to deal with them on their own. It is therefore essential to discuss and share experiences at every level. Creating a network of West African professionals who specialise in E&amp;S management of dams could be an effective tool for sharing experiences. This network could build on and/or contribute to existing platforms for professionals working on ESS and dams at the international (SIFEE, IAIA, ICOLD, etc.), regional or national level.</p>
5.1.5 Use the lessons learned from accumulated experience to adapt the legal framework and good practices in project design, development and implementation.	<p>It is good practice to regularly assess the relevance of national legal frameworks for project development to ensure that they meet the requirements for best practices. This process should build on current experiences in West Africa.</p>

## Recommendations

### 5.2 Promote the development of regional capacities in order to support water infrastructure projects

Measures	Rationale
5.2.1 Develop the capacity to promote best practices in large dam projects by establishing pool of skills and critical mass of professionals in West Africa.	<p>Supporting the development and decision-making entailed in large cross-border dam projects is a complex process due to the multiplicity of actors and diverse issues involved (technical, economic, environmental and social).</p> <p>The existence of standards governing the process (WB, AfDB) is no guarantee that it will proceed in the best possible manner. The main stakeholders concerned (basin organisations, national technical services, development banks, developers, consultancy firms, etc.) must have sufficient capacity to fulfil their respective tasks and responsibilities at each stage of a project.</p>
5.2.2 Establish a conceptual framework for large dams by developing a glossary for all related topics.	<p>The work of the panel highlighted the heterogeneous and fluctuating nature of the terminology for many aspects of E&amp;S management in large dam projects, due to the lack of international standards and the multiple frames of reference (national, sub-regional and international). While some concepts are covered by conventional definitions (international watercourse, joint structure, work in the common interest) or agreed definitions (large dam), many others change according to the frame of reference. This applies to basic concepts like environmental and social assessments (ESIA), environmental and social impact assessment reports (ESIAR) and cross-border dams. The panel believes that this situation is likely to lead to misunderstandings, especially in the context of large cross-border projects involving numerous stakeholders.</p>
5.2.3 Where necessary, build internal capacity to ensure that project developers can appropriate and steer the project.	<p>Project developers involved in large cross-border dam projects in West Africa or responsible for managing existing structures have different profiles (basin organisations, national power companies, authorities working under the auspices of a particular ministry, etc.). All need to have sound in-house project management capacities for all aspects of the initiative, including E&amp;S.</p> <p>This is particularly important when ongoing projects are in the hands of young institutions with no direct experience in dealing with the environmental and social problems associated with this type of undertaking. It is desirable for them to have well-trained staff with previous experience in existing sites in post from the preliminary stages of the project.</p> <p>This will enable project developers to appropriate the projects, including their E&amp;S dimensions, and fulfil their responsibilities towards all the actors concerned.</p>
5.2.4 Organise specific training in a regional centre to broaden the range of competences that will be needed in this sector over the coming decade.	<p>Over the next decade, demand for skills in E&amp;S management of large water infrastructures is expected to rise as the number of developments increases and more attention is paid to E&amp;S aspects of these initiatives. It is therefore necessary to increase the specific training and funding for staff who are already in post (in-service training) and for future recruits (initial training).</p>

## 6 Adopt a regional framework of reference for the environmental and social assessment of transboundary projects and delivery of their associated plans

### Recommendations

6.1 Within the framework of ECOWAS, harmonise the implementation of ESIA processes in large cross-border infrastructure projects

Measures	Rationale
<p>6.1.1 Adopt a set of regional minimum ESS standards within ECOWAS, building on AfDB standards.</p>	<p>Environmental and social studies (ESS) and E&amp;S documents relating to large cross-border water infrastructure projects in the ECOWAS area are governed by several types of standard: ESS guidelines laid down by development banks, national regulations, basin organisation charters, and the WCD recommendations.</p> <p>This multiplicity of standards raises a number of problems:</p> <ul style="list-style-type: none"> <li>◆ Two projects on the same watercourse may be funded by different donors and have very different ESS procedures, which can make life difficult for managers.</li> <li>◆ Defining the ESS procedures for a particular project in a way that takes account of all the requirements for each standard is a complex and time-consuming task, which is rarely undertaken.</li> <li>◆ Large projects are increasingly funded by donors that do not impose onerous requirements or specific E&amp;S management tools. In this case, it is up to the actors concerned (project developers, BOs, donors, States) to get organised and put in place an effective ESS framework specifically for the project. Willingness to establish such a framework may diminish in inverse proportion to the urgency of the need for the development and available funding.</li> </ul> <p>Defining a minimum set of regional standards could help resolve these problems.</p>
<p>6.1.2 While waiting to develop a regional standard, adopt AfDB standards for projects funded by donors whose ESS requirements fall below internationally recognised standards (WB, AfDB).</p>	<p>While waiting for ECOWAS to develop ESS standards for large water projects, the panel recommends the adoption of AfDB standards, especially for projects funded by donors without strong E&amp;S safeguard clauses. As all ECOWAS countries are members of the AfDB or endorse its policies and standards, they should find its standards acceptable.</p>
<p>6.1.3 Make the use of environmental and social assessment tools standard practice during the construction and operational phases (monitoring, surveillance, appraisals, <i>ex post</i> evaluations).</p>	<p>ESS does not end with the loan agreement or administrative authorisation to implement the project, but should continue throughout the construction and operational phases.</p>

<p>6.1.4 Ensure that the national legislation in the country where the works are carried out and in other affected countries is taken into consideration whenever it is more rigorous than the standards set by the donor.</p>	<p>Each country in ECOWAS usually has its own regulations regarding ESS, natural resource management (water, fisheries, forests) and land expropriation, which apply to all dam projects on their national territory.</p> <p>The case-by-case application of national ESS standards should be systematically considered for the following reasons:</p> <ul style="list-style-type: none"> <li>◆ They are legal obligations in the country where the works are carried out. Togo is the only country with specific provisions for large cross-border projects, allowing an ESS to be managed through a specific agreement between the developer and the Ministry for Environment.</li> <li>◆ They were established to frame the decision-making process for each State, with arbitration between different technical sectoral services, while the main objective of the banks' directives is to evaluate the project in terms of its E&amp;S aspects and a prospective loan agreement. Certain stages of the ESS may include processes that are more effective than those followed by banks (public consultations, instruction and written observations by the State technical services, etc.).</li> </ul>
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<p>6.1.5 Generalise the use of strategic sectoral or regional environmental assessments (hydro-electricity, energy, irrigation, or at the level of a basin).</p>	<p>Strategic environmental assessments are becoming more widespread, especially for large projects funded by the World Bank. It is now recognised that project-level ESS is not the best way to address critical issues such as cumulative impacts or selecting alternative approaches, etc. A strategic environmental evaluation undertaken before a large water infrastructure project, at the sectoral level (energy, hydro-electricity) or the regional level (basin) is a powerful decision-making tool that can help take account of the environmental and social dimensions of current and future projects.</p>
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**Recommendations**  
**6.2 Systematise ESS processes at different stages of the project**

<b>Measures</b>	<b>Rationale</b>
<p>6.2.1 Schedule ESIA reports in at least two phases: scoping ESIA report (in parallel with preliminary or feasibility studies) and a detailed ESIA (as the design study is finalised).</p>	<p>National regulations and donor guidelines require ESIA for large cross-border dams to be undertaken at the end of the project preparation phase, when the outlines of the technical proposals are already known and it is too late to change the project design.</p> <p>In order to address this problem, there is a commendable tendency to conduct ESIA in several phases, each associated with a technical study (pre-feasibility, feasibility, detailed project design, etc.), so that environmental and social considerations can be incorporated into the final technical design.</p>

## Recommendations

### 6.3 Outline the framework for ESIA in accordance with best practices

Measures	Rationale
6.3.1 Involve all the stakeholders concerned (including donors, BOs, national administrations, project developers, civil society organisations, representatives of local communities) in defining EES procedures.	<p>Experience shows that in most cases, whenever the AfDB or WB is involved, the bank's guidelines are used as the standard for determining how the ESS will be implemented. These requirements are not always in line with national regulations, which may have more stringent requirements for review by the administrative services (administrative instruction procedure) or public consultations (public hearings).</p> <p>The panel recommends that ESS scoping should not be exclusively undertaken by the donor and developer, but should involve all stakeholders, especially State technical services and civil society.</p>
6.3.2 Ensure that ToR are established and/or validated by qualified independent experts.	<p>ToR play an essential role in ESS procedures by defining the framework for the process. This is why they should be drafted by one or more qualified experts with experience in ESS and preparing ToR for this kind of project.</p> <p>These experts, whether they are mandated by the developer or made available by the donor, should be involved in all scoping activities. The panel recommends that they should be independent of all the parties concerned.</p>
6.3.3 Submit draft ToR for approval by all stakeholders and, for sensitive projects, approval by a panel of independent experts.	<p>Most national regulations in ECOWAS countries state that draft ToR for ESIA prepared by the project developer should be submitted for approval by the appropriate authority during a framework meeting, before it becomes a contractual document.</p> <p>The panel suggests that draft ToR should be approved not only by development banks and national technical services, but also by civil society, especially affected communities and, in the case of sensitive projects, a panel of independent experts to make sure the different parties' concerns are taken into account.</p>
6.3.4 Establish official minutes of the outcomes of all stakeholder consultation meetings during the scoping phase.	<p>In view of the importance of the scoping phase for the ESS process, the panel recommends that consultations with the different actors (developer, BO, donor, national technical services, civil society, etc.) are formalised in writing before and after the draft ToR are prepared, so that everyone's comments can be taken into account throughout the ESS process.</p>

## Recommendations

### 6.4 Formalise the stakeholder review-approval stage of ESIA reports

Measures	Rationale
6.4.1 Separate validation of the draft ESIA report by the developer from examination of the ESIAR by other stakeholders.	<p>The aim of this recommendation is to clarify the roles and responsibilities of the developer, the State services, and civil society, and thereby improve the process for reviewing and approving ESIARs (based on our observations during the analysis of the minutes of the ESIAR review meeting for the Sambangalou-Kaleta project and ESIAR validation workshops for the Fomi project).</p>

<p>6.4.2 Systematise the appraisal of ESIA reports by the State technical services involved in the project, through an officially written statement that is binding on the department.</p>	<p>A review of the cases from Sambangalou and Fomi indicates that the State technical services have not entirely fulfilled the role assigned to them by the national regulatory framework. Nevertheless, the national technical services in charge of the environment or a particular sector (water resources, forests, fishing, health, etc.) are in the best position to assess the technical relevance of ESIARs or ESMPs from a global or sectoral perspective. Furthermore, national ESS regulations sometimes set out an administrative instruction procedure for arriving at the final decision and determining the conditions imposed on the developer.</p>
<p>6.4.3 Ensure that decision-making meetings are minuted and participants' full names and positions are recorded.</p>	<p>The minutes of workshops to review/validate ESIARs examined by the panel do not identify the people who made particular comments, meaning that they cannot be held to account. They do not provide a clear view of the concerns in different State departments, make them accountable for their position, or show how issues raised by the services concerned were resolved or arbitrated.</p>

**Recommendations**

**6.5 Ensure that EIA processes are supported by highly qualified professional experts**

<b>Measures</b>	<b>Rationale</b>
<p>6.5.1 Systematise the establishment of independent panels during key stages of the project (development, construction, operation).</p>	<p>An independent panel provides an independent assessment of issues that need to be addressed in impact assessments and project implementation, while providing a mechanism for transferring best practices from one project to another at both national and international levels.</p> <p>This is helpful in reviewing the impact assessment and the planning, design and implementation of environmental and social plans. It provides an opportunity to take problems to the appropriate body to be resolved, and provide quality control to assure the developer, donors and affected groups that the necessary standards are being met and that rules and guidelines are respected.</p>
<p>6.5.2 Ensure that teams of consultants responsible for ESS include national and/or regional-level experts.</p>	<p>Although international experts from outside the region can provide methodological expertise, national and/or regional expertise is needed to ensure that studies and plans reflect knowledge of local practices and realities. Local expertise is also needed to update documents, provide additional information and support project implementation without regular recourse to remote experts. If several projects are under way on the same national territory, national teams can be established to manage the challenges associated with the construction and management of large dams.</p>

**Recommendations**  
**6.6 Ensure that all plans are properly implemented (ESMPs, RPs, LDPs)**

Measures	Rationale
6.6.1 Funding for all plans (ESMPs, RPs, LDPs) should be an integral part of the overall plan to finance the project.	<p>The examples assessed by the panel show that the implementation of environmental and social plans, which in some way represent the culmination of the environmental and social impact assessment process (environmental and social management plans, resettlement plans, local development plans) is a weak link in the process of taking environmental and social impacts into consideration in large water infrastructure projects.</p> <p>This is why it is essential to ensure from the outset that funding for the implementation of these plans is an integral part of the overall financial plan, like funding for other project components (preliminary studies, construction works, etc.).</p>
6.6.2 Dam construction should begin only when the requisite funding for the ESMP, RP and LDP is in place.	There are several cases where construction works have started before funding has been secured to implement the environmental and social plans. This causes delays and uncertainty about the implementation of planned measures, especially in the social component.

**Recommendations**  
**6.7 Prepare an emergency plan before the structure becomes operational**

Measures	Rationale
6.7.1 Develop an emergency plan for the area downstream from the project.	There are certain risks associated with large water infrastructures, such as dams breaking and exceptional releases of water, etc. It is essential to determine each actor’s role in managing these emergency situations and the mitigation measures that will need to be implemented.
6.7.2 Ensure that all actors in the affected area are informed about emergency plans and procedures.	It is important that all the actors concerned are aware of the plan so that they can facilitate its implementation if the need arises.

# 4 Lexicon

This lexicon explains some of the terms used by the panel when formulating the recommendations presented in the previous section.

**Basin organisations:** the panel uses this term to refer to organisations that are responsible for integrated water management in cross-border basins in the ECOWAS area (OMVS, OMVG, NBA, VBA). The panel did not take national-level basin organisations into consideration.

**Cross-border/transboundary dam:** i) a dam sited on an international watercourse; ii) a dam constructed by a multinational project developer; iii) a dam that creates upstream or downstream impacts in other countries; (iv) a dam that is potentially affected by a dam upstream in another country.

**Cross-border project:** see cross-border dam.

**E&S documentation:** denotes the various documents produced at different stages of the project cycle that refer to the environmental and social dimensions of the initiative. During the project preparation phase they include framework and contractual documents (scoping report, ToR for the Environmental and Social Impact Assessment Report (ESIAR) and related plans, consultants' financial and technical proposals), the E&S components of the pre-feasibility and feasibility studies, detailed ESIARs and related plans, environmental and social management plans (ESMPs), resettlement plans (RPs), local development plans (LDPs), and the environmental and social components of the legal documents associated with the project. During project screening and approval, this documentation includes minutes produced by the authorities involved in the process of reviewing the aforementioned documents (donors, State services, basin organisations) and minutes of public consultations and participatory processes. Documents produced during the project implementation and operational phases include minutes of consultation meetings, the E&S obligations of interested parties, water management rules for operating the dam, and monitoring and environmental assessments. The panel deliberately uses this terminology to avoid giving the impression that environmental and social issues are solely addressed through impact assessment reports and related management plans. Note that project documentation also includes documents relating to the technical, economic, legal and financial aspects of the project.

**Environmental and social assessment (ESA):** here the panel adopts the terminology used by the two principal development banks involved in West African dam projects, the World Bank and the African Development Bank, and by the French-speaking International Secretariat for Environmental Assessment (SIFEE). The World Bank Group defines ESA as a process that "evaluates a project's potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design and implementation by preventing, minimising, mitigating or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation. [...] Depending on the project, a range of instruments can be used to satisfy the Bank's EA requirement: environmental impact assessment (EIA), regional or sectoral EA, strategic environmental and social assessment (SESA), environmental audit, hazard or risk assessment, environmental management plan (EMP) and environmental and social management framework (ESMF)" (World Bank, OP 4.01, pages 1 and 3). ESAs can be seen as a toolbox for sustainable development, with *ex ante* instruments such as social and environmental impact assessments (ESIAs) and environmental and social management plans, and *ex post* instruments such as monitoring, audits and environmental and social assessments.



**Environmental and social impact assessment (ESIA):** this refers to the process (procedure) of examining the positive and negative consequences that a planned development project or programme will have on the environment, and ensuring that they are duly taken into account in the final project design (OECD 1992). An ESIA is an ESA tool that is used during the preparatory phase of a project. It usually includes several steps: preliminary screening (does the project need to be assessed?), preparing a scoping report and subsequent ToR, producing ESIA reports, assessment and adoption of those reports by institutional actors, public consultations, and the final decision whether or not to authorise the project.

**Environmental and social impact assessment report (ESIAR):** this tool can be used for analysis, forecasting, proposals, consultation and decision-making. ESIARs are drafted by consultants on the basis of ToR developed during the scoping phase, and officially submitted by the developer to the authorities responsible for processing and approving them (donors, State services, basin organisation) and presenting them for public consultation.

**Integrated Water Resources Management (IWRM):** this is a process that facilitates the coordinated development and management of water, land and related resources in order to maximise economic and social well-being in an equitable manner, without compromising the sustainability of vital ecosystems. IWRM is based on four principles:

1. Fresh water is a finite and fragile resource, which is essential in order to sustain life, development and the environment.
2. Users, planners and decision-makers at every level should be involved in the management and exploitation of water resources.
3. Women play a key role in the provision, management and conservation of water.
4. Water is used for many purposes and has an economic value, and should therefore be recognised as an economic good.

**Internal rate of return (IRR):** this is the maximum return that a project can make on the resources used if it is to cover its investment and operating costs and break even. The classic selection criterion when using IRR to assess the value of a project is to accept any independent project with an IRR greater than its capital opportunity costs.

**International watercourse:** “a watercourse, parts of which are situated in different States” (Convention on the Law of the Non-navigational Uses of International Watercourses, New York, 1997). This Convention defines a watercourse as “a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus.”

**Joint structure:** the panel uses the definition adopted by the Senegal River Development Organisation (OMVS). “All works legally declared to be common property are the common and indivisible property of OMVS member States. [...] Without prejudicing the sovereignty of the State on whose territory all or part of a common structure or associated or ancillary structure is found, co-owning States have an individual right to an indivisible part of the joint structure, and a collective right to use, enjoy and administer the joint structure and its annexes and ancillaries” (Articles 2 and 4 of the OMVS Convention on the legal status of joint structures, 1978). The Niger Basin Authority (NBA) gives the same definition in its water charter, describing joint structures as the “common and indivisible property” of all NBA member States. Its water charter classifies any structure “in which two or more NBA member States share an interest, and for which they have agreed a coordinated management system” as a common interest structure (Niger Water Charter 2008).

**Large dam:** the panel uses the definition given by the International Commission on Large Dams (ICOLD), whereby a large dam has “at least one of the following characteristics: (i) it is over 15m high; (ii) it is between 10 and 15m high, with a crown over 500m long, a spillway with a capacity of over 2000m<sup>3</sup>, or a reservoir capable of holding over 1 million m<sup>3</sup> of water”.

**Net present value (NPV):** the simplest and most direct way of assessing a project’s current cash flow. It is the present value of income flows generated by an investment, and is used as a criterion to validate any independent projects whose net present value is greater than zero after their capital opportunity costs have been taken into account. This criterion can only be applied if the opportunity costs have been calculated in a satisfactory manner. If not, as is often the case in developing countries, NPV is usually taken to be between 8% and 12% when assessing projects.

**Project affected people (PAP):** this refers to people who are affected by a project. PAPs include those who have to be resettled due to development works (dams, access roads, electricity supply lines) or flooding of a reservoir, the host communities that accommodate displaced people, and populations affected by the downstream impacts of a project during the construction and operational phases. Affected people include vulnerable groups such as youth, women and the elderly, single and disabled.

**Water infrastructure:** the panel uses the terms ‘water works’ and ‘water infrastructures’ to refer to existing, planned or ongoing works connected with water. These are mainly large dams (as defined by ICOLD, see above), but also include large irrigation systems and projects to transfer water from one basin to another.

**Water works:** see Water infrastructure.

# 5

## Annexes

### Annexe 1. Formal participation in WRCC workshops

**Ouagadougou, 20th January 2011.** Technical services and representatives from countries belonging to the Volta Basin Authority (VBA): Benin, Burkina Faso, Ghana and Togo; also civil society representatives from Benin, Ghana and Togo.

**Niamey, 24th January 2011.** Technical services and representatives from countries belonging to the Niger Basin Authority (NBA): Guinea, Mali, Niger, Cameroon, Chad and Nigeria; civil society was represented by national associations of user groups in the Niger basin from Mali, Guinea, Nigeria, Burkina Faso and Niger.

**Dakar, 27th January 2011.** The Senegal River Development Organisation (OMVS) and Gambia River Development Organisation (OMVG); representatives from Liberia, Cap Verde and the Gambia; civil society groups from the Senegal, Gambia and Mano river basins.

IUCN participated in all the workshops, and coordinated civil society contributions during the regional dialogue and after the capacity building workshops in Nouakchott (Mauritania), Sélingué (Mali) and Ouagadougou (Burkina Faso).

**Ouagadougou, July 2011.** Regional workshop attended by representatives from the following organisations:

- ◆ National IWRM focal points from ECOWAS member States
- ◆ The chair of the regional Committee of Technical Experts
- ◆ The chair of WRCC
- ◆ IWRM focal points from basin organisations
- ◆ The representative of the ECOWAS Commissioner for Agriculture, Environment and Water Resources
- ◆ The vice-president of the Regional Association of natural resource users in the Niger Basin
- ◆ Representatives of civil society groups
- ◆ Representatives from partner organisations (CILSS, GWP, WWF, IUCN)
- ◆ Representative from the IOWater
- ◆ Representatives from the panel of experts
- ◆ Representatives from WRCC/ECOWAS.

The recommendations formulated during the process of regional dialogue on large water infrastructure in West Africa were adopted at a meeting of the regional Committee of Technical Experts (CTE) in December 2011.

### Regional contributions to the WRCC dialogue coordinated by IUCN (2009-2011)

In 2009, IUCN proposed an electronic forum (e-forum) to launch the debate on large water infrastructure in West Africa and enable interested actors to express their views and share their experiences in this area. Over 1,000 people from more than 400 organisations were invited to participate in the electronic discussion, and the forum was used by representatives from ministries, institutions, donors, NGOs and producer associations, and consultants, researchers and elected local officials, most of them from West Africa.

Just under 200 people signed up to take part in the exchanges, and 50 participants representing 39 institutions and independent individuals played an active role in the forum. Most were consultants or researchers (18 bodies/independent individuals), followed by NGOs (10), international and regional institutions (4), ministries and donors (3) and the private sector (1).

This e-forum helped bring a wide range of different actors together to discuss large water projects and their impacts, propose issues for further analysis, and suggest recommendations that were subsequently revisited in the consultation process, particularly during the workshops with civil society groups. The opportunity to contribute freely to this exchange in an individual capacity helped achieve the objective of gathering diverse opinions and facilitating dialogue across West Africa.

After the e-forum, IUCN organised two regional forums in the Senegal and Niger River basins, the two primary watercourses in West Africa. The first was held in May 2010 in Nouakchott, Mauritania, and the second in June 2010 in Sélingué, Mali. Both lasted three days, and were attended by representatives from civil society groups in the respective basins, who discussed the issues and impacts associated with large water infrastructures and their effects on local living conditions. These discussions, which were largely based on the conclusions of the e-forum and the April 2010 version of the panel of experts' recommendations, enabled actors without specialist knowledge of dams to better understand the terms of the debate, which was often technical and not easily accessible.

These forums were attended by nearly 100 participants from the four countries in the River Senegal basin and the nine countries in the River Niger basin: populations affected by large dams, chiefs of displaced and host villages, producer organisations, users' associations, NGOs, elected local and national officials, women's associations, representatives from national parks (Diawling and Djoudj), the development authorities from three dam projects on the Niger (Fomi, Taoussa and Kandadji), researchers and members of the health sector. The two basin organisations concerned, the Senegal River Development Organisation (OMVS) and the Niger Basin Authority (NBA), sent representatives to both meetings, enabling users to meet members of these regional institutions for the first time.

From January 17th to 19th 2011, 15 representatives from 15 West African countries attended a regional workshop in Ouagadougou, Burkina Faso. This was held to prepare and train civil society actors from the five major river basins in the ECOWAS area (the Niger, Senegal, Gambia, Volta and Mano Rivers) in the run-up to the WRCC forums at the end of January 2011. These forums were held to share the panel of experts' recommendations with basin organisations, States and civil society, and to enable civil society groups to present their own recommendations and to make an active contribution to the consultations on the panel's work.

For further information, see [www.dialoguebarrages.net](http://www.dialoguebarrages.net)

## Annexe 2. Composition of the panel put in place by the WRCC to further the debate on sustainable infrastructures in West Africa

The WRCC set up a panel of seven experts, whose names and profiles are presented below in alphabetical order. They included a specialist in water resources, a lawyer, an economist, a dam specialist, an agronomist, a sociologist specialising in participatory approaches, and an expert in environmental assessment. The panel's work was facilitated by Natacha Jacquin from the IOWater.

**Mr. Charles ADDO** was the panel's dam specialist. In addition to a BSc. in civil engineering and an M. Eng. in hydraulic engineering, he has attended specific training courses on various aspects of large-scale dam projects. He has been with the Volta River Authority (VRA) for the last 30 years and is now based in the engineering department, representing the VRA in its work with the Ghanaian meteorological agency, the water services and SONABEL on matters relating to water resources in the Volta basin.

**Mr. Amidou GARANE** provided insights on the legal aspects of large water infrastructure projects in the region. He has a PhD in international public law, and a particular interest in environmental and social issues. As well as lecturing at the University of Ouagadougou, he sits on several committees and participates in and coordinates the work of scientific teams working on natural resource management, particularly IWRM, in the region.

**Mr. Edmond KABORE** brought his economic and financial expertise to the panel, as its specialist in scoping studies, development economics and strategic planning. After training as an economic statistician, he spent several years working on water economy and has contributed to numerous debates on the promotion of IWRM in basins in West Africa.

**Mr. François OBEIN** is a chief engineer for bridges, water and forests. He was the panel's water resources expert, and coordinated its work in this field. His experience with international organisations (FAO, UNDP), governments and in the private sector includes a spell as environmental officer for the developer and owner of the Nam Theun 2 hydroelectric project in Laos, and chair of the panel of environmental and social experts for the Lom Pangar project in Cameroon.

**Mr. Brahima SIDIBE** was the panel's expert agronomist. After studying at the Ecole Nationale Supérieure Agronomique de Nancy and obtaining a Masters degree, he conducted research at the Institut d'Économie Rurale in Mali and worked as Director of the country's main rice research station, then joined OMVS as a specialist in agronomy, and subsequently the AGRHYMET Regional Centre.

**Mr. Jamie SKINNER** contributed specialist knowledge acquired over 25 years working on water management and its social and environmental dimensions. A former member of the Secretariat for the World Commission on Dams, he is Team Leader at the International Institute for Environment and Development (IIED), and works on large dam projects in West Africa.

**Mr. Loïc TREBAOL** was the panel's environmental expert. After gaining a PhD in engineering from the Institut National Agronomique Paris-Grignon, he began working as a consultant in 1996, specialising in environmental assessments and the management of aquatic environments in France and other countries. He brought a sound understanding of the environmental issues associated with West African water systems, acquired through his involvement in impact assessments of several cross-border dam projects (Adjarala in Togo/Benin; Sambangalou in Senegal; and Garafiri, Kaleta and Fomi in Guinea).



The guidelines presented in this manual were formulated through a process of regional dialogue on large water infrastructure. Discussions began in 2009, and were steered by the Water Resources Coordination Centre, in close collaboration with the ECOWAS departments responsible for energy, agriculture and the environment. Large water infrastructure projects on cross-border watercourses often involve several countries and are therefore a potential source of conflict, however they can also contribute to regional integration if they are undertaken within a consultative framework. The recommendations and measures presented in this manual are intended to help the actors involved in large water infrastructure projects meet this challenge by focusing on six key areas:

- 1 Affirming the critical role of basin organisations in the development and implementation of cross-border projects;
- 2 Involving affected populations in projects as actors, partners and beneficiaries;
- 3 Ensuring that all actors involved in project development play their respective roles;
- 4 Assessing and optimising the profitability of large water infrastructure in West Africa;
- 5 Capitalising and sharing existing experiences within the framework of ECOWAS; and
- 6 Adopting a regional framework for environmental and social assessment of transboundary projects and delivery of their associated plans.

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