WATER RESOURCES COORDINATION CENTRE
CENTRE DE COORDINATION DES RESSOURCES EN EAU
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Guidelines for the sustainable development of water infrastructure in West Africa

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1. Context

A consultation on large water infrastructure is underway within ECOWAS. It is being implemented by the Water Resources Coordination Unit (WRCU) of ECOWAS. The objective is to contribute to the harmonious development of ECOWAS member States and to regional integration through a dialogue on large infrastructure in the water sector.

An expert panel convened by WRCU (July 2009-April 2010) analysed good practices and made recommendations concerning consultation and decision-making processes associated with the development of sustainable large water infrastructure in West Africa and especially dams. The objectives of the panel are presented in the Box. A sample of projects, proposed by the steering committee, was analysed including existing dams, those in construction or planned. The analysis focussed on three in depth case studies proposed by the steering committee : Manantali, existing dam in the Senegal basin, Kandadji, planned dam in the Niger basin and Bui, under construction in the Volta basin.

Box : Objectives of the expert panel

The objectives of the expert panel were as follows:

- analyse decision making processes
- summarise the results of the different impact studies: positive and negative
- analyse the measures proposed to reduce negative impacts and the extent of their implementation
- make recommendations on consultation processes, methods for assessing, attenuating and compensation negative impacts of the main works that can be used

The initial recommendations of the panel were entitled *Best practices for the development of sustainable water infrastructure in West Africa* **(**April 2010) and served as a departure point for a consultation processes.

These recommendations were thereafter presented and debated with basin organisations, States and representatives of civil society during three seminars organised by WRCU that were held in Ouagadougou, Niamey and Dakar (January 2011). The useful contributions made by the stakeholders during these meetings were taken into consideration by the panel during a March 2011 workshop and constitute a set of consensual recommendations, validated by the WRCU, that will be communicated to ECOWAS for adoption in the form of a directive.

Section 2 presents the recommendations in tabular form. Sections 3 and 4 present a glossary of terms adopted by the panel and a table of acronyms.

2. The Recommendations

In total, 25 recommendations are proposed. They are grouped under 6 main headings and detailed through 77 measures. Each measure has an explanation associated with it to clarify its context and justification.

The six categories are as follows :

1. **Assert the critical role of basin organizations (BOs) in developing and implementing transboundary projects; (3 recommendations ; 10 measures) ;**
2. **Involve the affected people as project actors, partners and project 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 optimize the profitability of large water facilities in West Africa(6 recommendations ; 13 measures) ;**
5. **Capitalize and share existing experiences within ECOWAS (2 recommendations ; 9 measures) ;and**
6. **Adopt a regional framework for carrying out environmental and social assessments of transboundary projects. (7 recommandations ; 19 mesures).**

These recommendations are addressed to all actors involved in the development and implementation of large water infrastructure in West Africa (States, basin organisations, WCRU, project developers ...) for both national and transboundary projects.

As laid out in the objectives of the panel, these recommendations principally concern the decision making process linked to the challenge of sustainable development which needs to be reinforced by promoting good practice. Certain technical aspects that are also essential for decision making (for example geo-technical issues, design of works, degradation of basins, sediment fluxes etc) are not specifically addressed in the panel's recommendations, although they were often raise din the consultations with States, civil society and basin organisations. These recommendations therefore do not constitute an exhaustive guide to implementing large dam projects.

Guidelines for the sustainable development of water infrastructure in West Africa

1 – ASSERT THE CRITICAL ROLE OF RIVER BASIN ORGANIZATIONS (BO) IN DEVELOPING AND IMPLEMENTING TRANSBOUNDARY PROJECTS

Principles	Measures	Explanation
1.1 Promote the integrated development of river basins	**1.1.1** - Strengthen the role of BOs through all project stages	When basin organizations (BOs) exist and play their role, the development of the basin is driven by a global vision of Member States. The benefits to this include: (1) a development project for the entire basin and within the framework of regional cohesion, (2) sharing of costs and benefits among States, (3) the obligation to inform and consult among riparian States for any water project, thus reducing the risks of conflict. When BOs exist but do not play a significant role in coordinating studies for large dam projects or mobilizing resources, the risk of conflict among riparian States remains, and the projects may not meet the need for regional cohesion. BOs ensure regional cohesion, sharing of costs and benefits among States, and therefore reduce the risk of conflicts.
	1.1.2 - Ensure BOs are institutionally and financially functional and sustainable	BOs will not be able to fulfill their mission properly without secure and regular financial support from their Member States.
	1.1.3 - Establish BOs where none exist, including where appropriate, for 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 profitable to develop the resources of such a unit based on a single master plan coordinated by a basin agency, such as the Mono, Comoé/Bia/Tano and Cavaly/Cestos/Sassandra basins.
	1.1.4 - Ensure each basin has a coherent long-term strategy (for example: shared vision, master plan, sustainable development plan for the basin, 5-year investment programme, etc.)	The development of shared water resources is a lot more complex than that of structures built on national watercourses, and must be recognized as such. The existing strategies and structuring programmes have mobilized States, donors and local populations effectively..
	1.1.5 - Put in place mechanisms for cost and benefit sharing both between States and with local populations	As water is a multi-usage resource, shared among many different actors and States, the equitable sharing of costs and benefits allows for the development of the economic potential in a non conflictual environment.
1.2 Urge/encourage States to abide by regional policies and strategies	**1.2.1** - Develop projects in compliance with IWRM frameworks and policies that are validated in the region by BOs and/or by regional integration institutions	There is a wide range of frameworks and policies developed by the States, regional integration institutions, BOs, donors. By following the regional frameworks and policies, the different approaches are harmonized, the risks of duplication are minimized, and a long-term vision for the development of the territory is promoted, contributing to sub-regional cohesion.

Principles	Measures	Explanation
	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 materialize and involve significant financial resources. In view of the development challenges related to the implementation of these structures, as well as the nature of the impacts, large dam projects structure the basin with associated challenges at political, economic, financial, social and environmental levels. Therefore, the decision to implement a large dam project in a basin should stem from a comprehensive vision of development at both basin and ECOWAS levels.
1.3 Empower BOs in organizing transBOundary consultations	**1.3.1** Inform and consult stakeholders at basin level right from project design	Some basin organizations have developed consultation tools with the States for the sustainable development of the basins and the coordinated development of international watercourses. When these tools work, they allow for the development of acceptable projects for upstream and downstream countries. This consultation ought to be extended to include all those concerned.
	1.3.2 Conduct formal consultations with the affected States before final design, to enable them to react in a timely manner and allow corrective measures to be taken into consideration	When one or more downstream States do not feel adequately informed in real time, this leads to tensions or conflicts. Worse still, this can oblige a State to reengineer, under political pressure, its initial plans with higher costs and longer lead times involved.
	1.3.3 Initiate public consultations at basin level right from the beginning of the ESIA to enable stakeholders to participate in the decision-making process	Effective participation of all stakeholders involved is one of the four principles of IWRM.

2 – INVOLVE THE AFFECTED POPULATIONS AS PROJECT ACTORS, PARTNERS AND BENEFICIARIES

Principles	Measures	Explanation
2.1 Consider the affected people as partners and ensure that they benefit directly from the dam throughout its life cycle	**2.1.1** Provide the affected people with the direct benefits generated by the dam (agricultural land, electricity, drinking water, grazing areas, fisheries, etc.).	Ensuring the populations benefit directly clearly considers displaced people as part of the project throughout its lifetime. This reduces rejection of the project and helps avoid the feelings of dependency vis-à-vis the State, which may last for several generations.
	2.1.2 Circulate appropriate information to local people at all stages of the project cycle	Lack of information and transparency leads to mistrust on the population's part. Delivering messages in a format and language accessible to the targeted audience during a specific consultation will facilitate the effective participation of the population in decision making processes.
	2.1.3 Consult the affected people according to standards and best practice about which they have been informed, namely: what institution is responsible? How will the consultation be organized? Will public hearings or a local monitoring committee be used? Etc.	Civil society in general and the affected populations (PAPs) in particular, should be consulted according to the terms stated in a consultation plan consistent with good practices (e.g. those of the World Bank) and brought to the attention of the different stakeholders. This helps reduce questions and controversies and improve support for the project's objectives. Public hearings and enquiries are efficient tools to consult with the PAPs, and are found in several national ESIA procedures.
	2.1.4 Ensure effective and informed participation of the local populations in decision-making through all key project stages	A dam project is primarily a project for social transformation. Lack of inclusion of the resettled population at initial stage has often brought about social conflicts, dependency vis-à-vis the State and sometime social movements claiming more benefits. This can entail ex-post transaction costs which are difficult to handle. Technical proposals by consultants should, therefore, have the local populations' support if they are to succeed. It is indeed crucial to inform and consul local populations, but there is also the need to seek for their agreement and consent on major decisions concerning them. This process often calls for the establishment and/or the funding of an interface (one or several NGOs, for example) with a view to organizing exchanges.
	2.1.5 Take into account the intangible/cultural goods in relocation programmes while recognising rights of access to land and ensuring compensation and/or an indemnity for the loss of traditional use	The analysis of the panel highlighted the fact that compensation does not systematically apply to all of those goods, although they have a real value for the populations, and that donor procedures, such as the World Bank's, require that they be considered to be important.
	2.1.6 Ensure good governance and transparency in the implementation of plans concerning affected populations	Good governance and transparency are fundamental considerations for proper implementation of the various plans. They ensure effective participation of the populations in decision-making processes – populations who commit themselves through informed consent – and build trust among the different actors in a peaceful framework. Thus, they contribute to ensuring the successful implementation of plans.
	2.1.7 Support the local stakeholders involved in the consultation process (populations affected, local authorities, customary authorities, community-based organisations, women associations, NGOs, etc.) to ensure their effective participation in the decision-making process.	A strong involvement of local institutions in consultations fosters inclusion in the project and helps prevent potential disagreements.

Principles	Measures	Explanation
2.2 – Ensure that people's living standards are improved after the dam construction	**2.2.1** – Establish a baseline reference for the living standards of the populations affected (displaced communities, but also host communities, communities upstream and downstream, etc.)	It is quite easy to identify people/villages to be displaced on the site of the reservoir and the dam. However, it is less easy to identify early enough the host villages, transhumant pastoralists and fishermen and downstream people affected (who can change depending on the variant of the project). There is a tendency to identify host villages only at the stage of the Resettlement plan. They must be clearly identified during the ESIA, and the impacts of the resettlement on those villages must also be taken into consideration in order to involve them in the information and consultation phases to ensure successful relocation. A good analysis of the socioeconomic baseline reference will make it possible later to measure the change in the affected populations' living standards, to ensure those standards are improved.
	2.2.2 – Identify the legitimate representatives of the populations, capable of leading negotiations and signing agreements	In order to contractualize the "demonstrable agreements" (2.2.4), the people who legitimately and legally represent the affected communities need to be identified at the start of the ESIA, and the process to be followed in order to obtain their agreement needs to be set out.
	2.2.3 – Negotiate and agree the content of each plan by representatives of the people affected – specifically involving women and vulnerable groups	Most projects conduct consultations and information sessions on plans but these do not always require formal agreement of the populations. A negotiation, conducted by the legitimate representatives of the populations, will help empower the populations vis-à-vis their own future and ensure that funds are allocated to actions that will meet the needs expressed by the affected populations.
	2.2.4 - Establish contracts for the plans through "demonstrable" agreements (between the developer (master of works) and representatives of the people affected) with possible consideration of an ombudsman for the execution of such agreements (retired judges, religious or customary leaders, the State ombudsman, etc.) and identification of the competent court in the event of a conflict	Resettled populations often, rightly or wrongly, complain that the State has not kept its promises and commitments. Contratualizing plans between the representatives of local populations and the developer or the State allows commitments to be clarified and ensures a legal basis by specifying rights and obligations for the different parties. The plans will no longer be considered as advantages granted unilaterally by the project owner but as documents negotiated among partners, the provisions of which they must mutually abide by or risk engaging their respective responsibilities.
	2.2.5 – Standardise the implementation of compensation measures to avoid unjustified discrepancies between projects within a State, or for a transboundary project	People affected by different projects may receive different compensation (depending on the donor, for example). There may also be discrepancies between countries in the case of a transboundary project. Such discrepancies should be avoided as they can lead to feelings of injustice.
	2.2.6 – Establish a compensation plan based on exhaustive, objective and up-to-date assessments of the affected people's assets, taking into account the risks associated with large dam projects and including a monitoring mechanisms	A compensation plan based on a rigorous initial analysis of the situation and a reliable inventory of the assets are essential prerequisites to avoid claims at a later stage.
	2.2.7 - Design and validate any modified production techniques with the local people to support delivery of the	Transformations in the production systems (such as a shift from river fishing to lake fishing, or from dry farming to irrigation farming) require the necessary support and the population's agreement. Some

Principles	Measures	Explanation
	relocation programme and local development plans, combining traditional local skills and innovative techniques	traditional techniques have been proven to work in practice, especially erosion control techniques. At the same time, research has developed methods that make it possible to improve production while minimizing the impact on the environment. Through the combination of these two types of techniques, in particular in pilot fields, it is possible to avoid non viable approaches that appear "out of the blue" and to intensify production on a long-term basis.
2.3 – Minimize the risks of livelihoods degradation inherent to the implementation of resettlement and local development plans	**2.3.1** – Provide for one or more contingency/emergency fund(s) to better manage unforeseen circumstances and/or adverse social effects	However perfect the plans may be, there are always unexpected events: supply timelines may delay the construction of host villages, in which case alternative solutions would have to be considered; epizootic diseases can adversely affect the projected income from livestock production; migration accompanying the workforce involved in project construction can entail serious health issues. In the face of these unexpected events, it may be necessary to implement emergency corrective measures, hence the importance of setting up one or more emergency and contingency funds.
	2.3.2 – The ESIA should take into account how the local societies affected function and the modifications predicted to result from the project, while including the local traditions (customary rule, rules governing the access to natural resources and land, conflict resolution, etc.)	Complex land issues and traditions are central to resettlement challenges. While the land may legally belong to the State, its daily use is governed by tradition. While land can be privately or collectively owned, cadastral registers rarely exist. The ESIA must take into account all these land issues. In areas where natural resources are already scarce, flooding several hundreds of km2 will inevitably lead to increased pressure on the remaining land. Good land is often occupied already, and host villages are sometimes not from the same ethnic group as the relocated population. If the project creates a growth centre, it may also entail an inflow of migrants. All this calls for arbitration by customary authorities, who must be able to adapt to the new social situation.
2.4 – Repair injustices and injuries related to previous dams to address disputes and resentment	**2.4.1** – Repair damages (legal losses) through a legal process	Failure by the project owner to implement plans (damages in a legal sense) may be the cause of the deterioration of the affected populations' living conditions. The populations committed themselves based on the compensation promised, therefore failure to comply with this necessarily entails damages, direct or indirect, material or moral, which must be fixed. The issue is to pay damages or to implement other forms of relevant compensation that will cover all of the damages resulting from the non implementation of plans.
	2.4.2 – Repair injustices (non legal losses) through a social process	Past social injustices can be the cause of the deterioration of the populations' living conditions. Fixing these is, first of all, an issue of social justice in the sense that the dam should not be either an instrument to impoverish riparian populations while improving well-being for urban populations and industrialists living very far from the dam site who have suffered no adverse impact. It is also an issue of efficiency in the implementation of the national policy on dams because fixing past situations of injustice contributes to restoring confidence between local communities and the State, not only for the management of the dam concerned, but also for future water infrastructure. So, the issue is to resolve any social liability by settling any previous conflict situations beforehand, better preparing the ground for the new projects that will be implemented in a more peaceful environment.

3-ENSURE THAT ALL ACTORS INVOLVED IN PROJECT DEVELOPMENT PLAY THEIR RESPECTIVE ROLES

Principles	Measures	Explanation
3.1 – Identify all the actors and specify their roles.	**3.1.1** – Identify all the actors potentially involved in the project development process and specify their respective responsibilities, i.e. basin organizations, States, development partners, developers, consultants, civil society organizations, grassroots communities, financial institutions, etc.	The panel stresses the importance: (i) that all stakeholders involved in the project development activities, and especially in the consultation process, be identified and characterized at the project's initial identification phase such that no actor is left out during the different consultation phases; (ii) that the responsibilities of each actor be clearly stated so that it can play its role in the process. Some national regulations require that a special section of the ESIA report list and present the stakeholders concerned, which explicitly explains this identification approach.
	3.1.2 – Define the role of consultants and financial institutions; they should not replace either the developer or the State in the consultations and in other activities.	The principal mandate of the consultant is to carry out technical, economic and M&E activities relating to the project. He/she is often asked to present the findings of these studies in a form that is easily understandable by all stakeholders involved in consultation and decision-making by preparing specific communication materials (non technical summaries, summary documents, PowerPoint, Websites), even by conducting presentations prior to consultation workshops. The situation is more delicate when the ToRs vest the consultancy firm with the responsibility to organize and conduct consultations with the stakeholders, including the conduct of consultation meetings/workshops and the answers to stakeholders' remarks.
	3.1.3 – Identify as early as possible in the planning phase a multidisciplinary team, within the developer, so as to have the required skills for the project	There are many uncertainties in the development of large water infrastructures which require competent and stable teams to accompany the project and build an institutional memory. The teams must constantly benefit from capacity building to be in a position to guide project development.
3.2 – Ensure better coordination between all water-related sectors/institutions at all levels	**3.2.1** – Promote and establish regular high-level collaboration between ministries and the institutions in charge of water involved in the project	Coordination among the different sectors involved in water resources is often non existent. The ministries in charge of these sectors differ from one ECOWAS country to another. Good coordinating mechanisms among departments involved in water resource management at all levels are required for integrated water resource management This calls for water management more per basin than per sector, and the implementation of development through programmes rather than projects
	3.2.2 – Strengthen vertical and horizontal dialogue at regional, national and local level (ECOWAS/BO/States, national/local authorities, local authorities/communities, and between local communities)	Coordinating the initiatives between the various levels of decision-making and implementation is still the weak link in the decision making process. Such coordination enables information sharing and facilitates collaboration at all project stages (study, construction, operation).
	3.2.3 – Establish synergies between the body representing civil society at ECOWAS and equivalent bodies that exist in BOs	A sub-regional IWRM consultation council was established within ECOWAS, in which civil society is represented. It seems important to create synergies between this body and other basin organization bodies in which civil society is involved. This would ensure coherence of the civil society's interventions in decision processes.
3.3 – Encourage BOs to strengthen their partnership with civil society and provide the necessary means for this	**3.3.1** – Strengthen the capacity of civil society	Strengthening civil society's capacities is an essential prerequisite for it to participate effectively in the decision-making process. A civil society with proven expertise in large water infrastructure projects is a strategic partner for BOs – dams would be better prepared, designed and operated.

Principles	Measures	Explanation
	3.3.2 – Promote effective participation of civil society in decisions pertaining to projects in the basins	Decisions pertaining to projects in the basins always affect people's lives. civil society ought to play a key role. Given its good knowledge of the basin's socioeconomic circumstances, it grasps the projects' real challenges better. Furthermore, civil society can act as a lever to ensure that the population's legitimate preoccupations are taken into account.

4 – ASSESS AND OPTIMIZE THE PROFITABILITY OF LARGE WATER FACILITIES IN WEST AFRICA

Principles	Measures	Explanation
4.1 – Question the financial viability of water projects	**4.1.1** – Promote a development model that encourages partnership with the private sector for the funding and operation of projects	Hydro-agricultural developments are very expensive and add very little value on financial investments. They can in very few cases only justify the implementation of a large structure. On the other hand, the energy component is often financially and economically viable. However, adding value on investments exclusively through the energy component may have some risks relating to the calculation methods of electricity price. In such situations, project and financial engineering that are economically viable should be promoted to encourage the private sector to get involved in the funding and operation of these projects.
	4.1.2 – Define a profitability condition in the ToRs for technical and economic feasibility studies to urge consultants to come up with innovative solutions	The technical design of hydro-agricultural projects does not usually require, as a prerequisite, the profitability levels to ensure the long-term financial viability of agricultural areas. Internal rate of return (IRR) is often calculated once development options are implemented and the development typology for plots of land is well defined. It is recommended that the IRR be included in the technical criteria that determine the design of projects in order to have several alternatives depending on the profitability criterion.
	4.1.3 – Look into alternatives to the project that would yield the same production objective, including alternatives based on more extensive approaches and other options (dry season crops, photovoltaic energy, wind or tidal power, etc.)	The decision to construct a large dam must not be an end in itself, but the best solution for achieving a clear production and development goal in terms of agricultural production, power supply, etc. Once the development goal is well defined, all technical possibilities must be explored to be able to identify the most adapted technologies to meet the goal. This is one of the recommendations of the World Commission on Dams.
4.2 – Optimize the economic profitability of existing or planned developments by promoting their multi-purpose dimensions	**4.2.1** – Integrate both primary activities related to the project objectives (hydro-electricity, irrigation) and other secondary sectors (fishing/fish-farming, food-recession crops, pastoral activities, etc.) into the economic assessment of existing or planned water projects	Promoting the multiple-purpose aspect of hydraulic structures through their various components (energy, agriculture, pastoral activities, fish-farming, etc.) increases project profitability and induces cost savings for consumers. However, large dam projects have not systematically assessed the impacts of the project by taking into account all direct, secondary and indirect effects.
	4.2.2 – Assess the opportunity costs associated with single-purpose developments	It is obvious that the economic performance of hydraulic structures is not optimized when the single-purpose option prevails (case of hydro-power). In this specific case, it is recommended as part of the feasibility study to provide some elements of assessment of the lost profits (opportunity cost) in respect of the option adopted.

Principles	Measures	Explanation
4.3 – Ensure that project running costs are recovered	**4.3.1** – Include a budget line to cover recurrent costs	The assumed profitability of water projects is not always confirmed during operation. There are therefore some recurrent deficits (case of Manantali), while modalities for addressing them are not clearly defined in the feasibility studies. In practice, it often appears that the depreciation infrastructure such as dams, main irrigation canals, etc. generates significant costs for farmers, other water users and consumers. This situation does not allow for the introduction of a sufficient fee to be able to finance the maintenance, renewal, replacement or extension of structures in the long-term. Without a consistent coverage of recurrent costs, the degradation of infrastructure requires, in the longer term, that rehabilitation funds, which may be equivalent to the original project costs, are sought. In such conditions, the project profitability becomes questionable even though the financial indicators were initially presented as remarkable.
	4.3.2 – Set up and/or improve the conditions for fee collection	The IWRM principles adopted for basins in West Africa requires the collection of fees to guarantee the sustainability of the projects and of the resource. The current situation in some agricultural areas in West Africa shows insufficient fee collection rates to ensure an optimal long-term management of the projects.
	4.3.3 – Share recurrent costs between the project owner (State or basin organizations), the operators and users (electricity suppliers, farmers, etc.)	At basin level, it is indispensable to draw up a financial model for sharing costs to reflect the roles and responsibilities of each actor. This would enable not only the clear identification of financial flows, but also the guarantee that the users/beneficiaries pay into the budget lines necessary to ensure the projects' sustainability (and possibly to reimburse the debt).
4.4 – Refine the financial and economic analysis of projects	**4.4.1** – Assess realistic profitability scenarios of projects through financial analyses using optimistic, average and low hypotheses	Ex ante profitability projections made as part of feasibility studies are often very optimistic. They are usually based on trend scenarios that mostly lead to good results. Yet, it appears that there are significant discrepancies between profitability projections and the actual results once projects are implemented. It is therefore suggested to envisage project feasibility studies based on the analysis of several scenarios to better grasp the project's assumptions and risks.
	4.4.2 – Present an economic analysis that considers both realistic profitability scenarios and the distribution of added value per economic unit (including States) and per value chain	Large agricultural water infrastructure projects do not have an obvious financial interest (capital profitability is just acceptable in the best operating conditions of the project). They are, however, a source of significant economic growth for West African countries. Even though the financial calculation is indispensable to assess the financial relevance of large dam projects, the economic profitability of the projects must also be assessed to better understand their economic impacts and consequences; including the following aspects: ♦ economic profitability criteria ♦ macro-economic results per unit and per value chain ♦ micro-economic results by target group.

Principles	Measures	Explanation
	4.4.3 – Take into account the fluctuations and reality of the market in the economic analysis, and the uncertainties associated with economic parameters	Through project feasibility studies, the market appears to be the gauge for financial profitability, whereas the following facts have been observed in the same studies: • Feasibility studies do not feature any market study; assessment of the demand is rather linear and based on a demographic trend. • The entire production is considered to be consumed. • Prices are considered to be stable over time (cf. example of Manantali: calculations are made using a price of $500 per tonne of rice, whereas the price at the time of the ex-post project evaluation is around $200). • The experience acquired in the past in similar projects is not taken into account. All these aspects should factor in new project studies to ensure a substantial impact of those projects on development.
4.5 – Ensure the project and its benefits are sustainable in the face of climate change	**4.5.1** – In feasibility studies, adopt hydrological scenarios that stem from climate change projections in the region	For the region overall, climate models foresee more extreme and more frequent exceptional events, increased temperatures and lower rainfall. If it has not been done yet, a sensitivity study ought to be carried out to prepare for the impacts of those changes. Thus, it will be possible to develop reservoir management plans in the event of very dry or very wet scenarios. The sensitivity analysis will of course need to take into account the increase in water demand linked to population growth. The management plans linked to long-term changes will need to be brought to the attention of all the stakeholders.
4.6 – Integrate environmental and social costs and benefits dimensions in economic assessments of existing or planned developments	**4.6.1** – Consider, as part of the economic assessment, any costs and benefits pertaining to environmental and social support measures contained in different plans (ESMP, RP, LDP, etc.), as well as those relating to the management of all residual and cumulative impacts.	Economic calculation takes into consideration in a trivial manner the costs relating to environmental and social support measures contained in the different plans (ESMP, PRP, LDP, etc.). Such an approach is simplistic and unsatisfactory. The costing of some categories of environmental charges in monetary terms is difficult in practice. It would, however, be interesting to go as far as possible in economic assessments, by taking into account all the residual impacts and finding – where relevant –objectively verifiable indicators to assess the intangible costs.

5 – CAPITALIZE AND SHARE EXISTING EXPERIENCES WITHIN ECOWAS

Principles	Measures	Explanation
5.1 – Use the **experience accumulated** with large dams in West Africa to better operate existing projects and design new ones	**5.1.1** – Make all the information available on large dams easily accessible, especially by developing an on-line data base of ESIA documentation from projects in the region	Promoting the accumulated experience in West Africa in E&S management of transboundary dams implies that the information can be easily gathered by all the actors (basin organizations, consultant firms, researchers, NGOs, etc.). During its work, the panel noted that the information was: (i) extremely scattered since in possession of developers, basin organizations, financial institutions, technical departments, etc; (ii) difficult to access especially in respect of records of decisions and minutes of consultations involving developers directly.
	5.1.2 – Draw lessons from experiences in West Africa in the area of (i) project development, (ii) information, consultation, collaboration, public participation, (iii) project development plans, (iv) environmental costs, etc.	About 50 transboundary dams have been constructed over the past 4 decades, in West Africa generating significant accumulated experience. This is worth promoting in the management of ongoing projects or improving existing ones by developing useful tools for decision-makers and practitioners involved in E&S management.
	5.1.3 – Evaluate large projects every 10 years, covering all aspects	Retrospective studies on E&S management of dam projects are helpful in (1) assessing the way studies are conducted; (2) taking stock of the environmental and social impacts that occurred; (3) being aware of the accuracy of the impact assessment and effectiveness of proposed mitigation measures. If taken into consideration, these studies offer a potential to (1) improve both the process and content of environmental and social assessment and the implementation of related programmes for new projects, and (2) adapt the management of the facility to the natural and socio-economic context.
	5.1.4 – Establish a network for sharing experiences on large dams in the ECOWAS region, especially by encouraging the organization of national and/or regional forums on dams and development	Large dam management and planning issues are so complex that no single institutional actor could pretend to master them thoroughly. Sharing experience at all levels is therefore fundamental. The creation of a network of West African professionals specialized in dam E&S management may be an effective tool for experience sharing. Such a network could build on and/or be part of existing platforms of ESS professionals at international (IFSEA), regional (AAOAEA) or national (an association in each country) levels.
	5.1.5 – Regularly update the legal framework and best practices to integrate the lessons learnt from project development experience	It is good practice to regularly assess the relevance of national legal frameworks for project development to ensure that they are adapted to best practice requirement. This update should be primarily based on the capitalization of ongoing experiences in West Africa.
5.2 – Promote the **development of regional capacity** to serve water infrastructure projects	**5.2.1** – Put in place the capacity to deliver best practice in transboundary large dam projects by establishing a critical mass of professionals in West Africa	The multi-actor process that supports the development and decision-making relating to transboundary large dam project is complex given the diversity of issues raised (technical, economic, environmental and social) and the multiplicity of actors. The existence of standards governing the process (World Bank, AfDB) is not sufficient for the process to take place in an optimal manner. The main stakeholders involved in the process (basin organizations, national technical departments, development banks, developers, consultant firms, etc.) must have adequate capacity to fulfill their respective tasks and responsibilities at each stage of a project.

Principles	Measures	Explanation
	5.2.2 – Establish a conceptual framework on large dams by developing a glossary on all the topics dealt with	The work of the panel highlighted the heterogeneous and fluctuating character of the terminology on many aspects of E&S management of large dam projects, in the absence of international standards and due to the multiplicity of frames of reference (national, sub-regional and international). If some concepts are subject to conventional definitions (international watercourse, common facility, common interest facility) or are agreed on (large dam), many others are on the other hand used in quite varying ways depending on frames of reference. This applies to basic concepts like environmental and social assessment (ESIA), environmental and social impact assessment report (ESIAR) or transboundary dam. According to the panel, this situation is likely to lead to misunderstandings as part of a large transboundary project involving numerous stakeholders.
	5.2.3 – Build internal capacity to ensure project ownership and management by developers whenever necessary	Developers who are proponents of transboundary large dam projects in West Africa or tasked with the management of structures in place have different profiles (basin organization, national power companies, authorities under the umbrella of a particular Ministry, etc.). All of them must have reliable internal capacities in project management, including E&S aspects. This is instrumental for developers of ongoing projects when it comes to young institutions which have not been confronted with in situ environmental and social problems in respect of a facility. It is desirable that they have well trained officers with past experience from existing sites, right from the preliminary stages of the project. The developer can therefore fully own the project, including its E&S dimensions and take on its responsibility in a multi-actor project.
	5.2.4 – Organize, within a regional centre, specific training to broaden the range of competences that will be necessary in this sector for the coming decade	Over the next decade, demand in terms of competencies in E&S management of large hydraulic structures is expected to rise with the increasing number of developments and the significant attention given to E&S aspects. It is therefore necessary to strengthen the funding for specific training both for officers in charge (in-service training) and for future entrants (initial training).

6 – ADOPT A REGIONAL FRAMEWORK FOR IMPLEMENTING ENVIRONMENTAL AND SOCIAL ASSESSMENTS OF TRANSBOUNDARY PROJECTS

Principles	Measures	Explanation
6.1 – Harmonize the implementation of EIAS processes for transBOundary infrastructure projects within ECOWAS	**6.1.1** – Define within ECOWAS a minimum set of regional standards for conducting ESS while building on AfDB standards	The implementation of environmental and social studies (ESS) and the elaboration of related E&S documents for transboundary dams within ECOWAS are governed by several types of standards: ESS guidelines of development banks, national regulations, basin organization charters, and the WCD's recommendations. This multiplicity of standards poses a certain number of problems: • There are strong disparities between ESS procedures between two projects on a same watercourse, yet funded by different donors, which may make life difficult for managers; • For a particular project, the definition of ESS implementation modalities taking into account the requirements of all standards is a complex and time-consuming task to perform in reality; • Transboundary dam projects tend more and more to received funding from donors without strong requirements or adapted tools for E&S management. In this case, it is up to the States to get organized and put in place an effective ESS framework specifically for the project. Willingness to establish such a framework may prove weak in the face of the urgent nature of the development and fundraising. Defining a minimum set of regional standards may help address these problems.
	6.1.2 – Adopt AfDB standards while waiting for the regional standards to be developed, in particular for projects funded by donors with inadequate ESS safeguard policies	While waiting for the ECOWAS ESS standards to be developed for transboundary projects, the panel recommends the adoption of AfDB standards, especially for projects funded by donors without strong E&S safeguard clauses. .
	6.1.3 – Make environmental and social assessment a standard practice at construction and operation phases (monitoring, surveillance, appraisals, post hoc assessment)	The ESS does not end with the loan agreement or with the deliverance of an environmental permit, but must continue all through the construction and operation phases.
	6.1.4 - Ensure that the national legislation of the country, as well as any affected countries, is taken into consideration wherever they are more rigorous than those of the donor.	Each country in ECOWAS has its own regulations on ESS, management of natural resources (water, fisheries, forests…), or expropriation of land that apply to any dam project within the national territory. The consistent application of the ESS regulations should be systematically considered for the following reasons : • They are legal obligations. Only in Togo are there specific provisions for transboundary projects and an EES can be specifically managed through an agreement between the developer ansd the Ministry for Environment. • They have been conceived to frame the decisions taken with arbitration processes between different government services, while the donor policies focus specifically on the conditions of the loan. They may include processes that are more desirable than those of the donors (eg public audiences, written opinions for the technical services etc).

Principles	Measures	Explanation
	6.1.5 - Generalise the use of Strategic Environmental Assessment	Strategic environmental assessment is applied increasingly often, in particular for large projects funded by the World Bank. It is now recognised that project level ESS is not adequate to address critical issues such as cumulative impacts or the choice of alternative approaches.... A strategic environmental evaluation that occurs before water infrastructure development (either sectoral, energy, hydropower... or at regional level eg the basin), is a powerful decision making tool that helps consider the environmental and social dimensions for future, as well as current projects.
6.2 – Systematize ESS processes at different stages	**6.2.1** – Schedule ESIA reports in at least two phases: scoping ESIA report (in parallel with the feasibility study) and then detailed ESIA (as the design study is finalized)	ESIA for a transboundary large dam, as required by national regulations and donor guidelines, takes place at the end of project preparation phase when the outlines of the technical proposals are already known. It becomes therefore too late to act on the project design. To by-pass this obstacle, there is the commendable trend of conducting ESIA in many phases, each being associated with technical studies (pre-feasibility, feasibility, detail design, etc.). The final technical design can then integrate the environmental and social considerations.
6.3 – Carry out preliminary ESIA scoping according to best practices	**6.3.1** – Involve all the stakeholders (including national administrations and civil society organizations) in defining the modalities for EES implementation	Experience shows that in most cases, whenever AfDB or the World Bank is involved, the bank's guidelines are applied as standards to define the ESS implementation modalities. These requirements are not always in line with national regulations which may yet contain stronger requirements in terms of review by administrative departments (administrative instruction procedure) or in terms of public consultations (public hearing). The panel recommends that ESS scoping should not be exclusively made by the donor and developer, but includes all the stakeholders, especially State technical departments and civil society.
	6.3.2 – Ensure that ToRs are drafted or validated by qualified and independent experts	ToRs play an essential role in the ESS process by setting the stage. That is why they must necessarily be drafted by one or several qualified experts with experience in ESS implementation and elaboration of ToRs for this kind of project. This expert, mandated by the developer or provided by the donor, must be involved in all scoping activities.
	6.3.3 – Submit the draft ToRs to the approval of all stakeholders and, for critical projects, to the approval of a panel of independent experts	Most national regulations in ECOWAS countries provide that the ESIA draft ToRs prepared under the Client's responsibility should be submitted for approval to the appropriate authority during a scoping meeting, before it becomes a contractual document. The panel suggests that draft ToRs be approved not only by development banks and national technical departments, but also by civil society, especially the people affected and, in the case of critical projects, by a panel of independent experts to make sure the concerns of the different parties are taken on board.
	6.3.4 – Establish official minutes of all stakeholder consultation meetings during the scoping phase	Considering the importance of the scoping phase for ESS, the panel recommends that consultations with the different actors (developer, donor, national technical departments, civil society, etc.) be formalized by writing both prior and after the draft ToRs elaboration, so that everyone's comments can be taken on board all through the ESS process.

Principles	Measures	Explanation
6.4 – Formalize the review-approval- stage of the ESIA reports by stakeholders	**6.4.1** – Separate the validation of the draft ESIA report by the developer from the examination of the ESIAR by other stakeholders	This recommendation is being suggested to clarify the roles and responsibilities of the developer, State departments, and civil society, thus to improve the ESIAR review and approval process (based on observations from the analysis of minutes of ESIAR review meeting for the Sambagalou-Kaleta project and ESIAR validation workshops for the Fomi project).
	6.4.2 – Systematize the appraisal of ESIA reports by government departments involved in the project, through an officially written statement that is binding on the department	A review of the cases of Sambangalou and Fomi indicates that the State technical departments did not fully play their role as provided by the national regulatory framework. National technical departments in charge of environment or any particular sector (water resources, forest, fishing, health, etc.) are in the best position to assess the technical relevance of the ESIAR or ESMP from a global or sectoral perspective. In addition, ESS national regulations provide sometimes for an administrative instruction procedure leading to the final decision and to conditions imposed on the developer.
	6.4.3 – Ensure that records of decision-making meetings be presented in the form of minutes indicating the full name and position of the participants involved	Minutes of meetings reviewed by the panel are general, not binding anyone and not identifying the authors of comments made. This does not give a clear vision of concerns in different State departments, or make them accountable in their position or facilitate follow-up for the settlement or arbitration of issues raised by the departments concerned.
6.5 – Ensure that EIA processes are supported by highly qualified professional expertise	**6.5.1** – Systematize the establishment of independent panels during the key project stages (development, construction, operation)	An independent panel gives an independent assessment of issues to be addressed in impact assessments and project implementation, while providing a mechanism for transfer of best practices from one project to another, both at national and international levels. It is helpful in reviewing the impact assessment and the planning, design and implementation of environmental and social plans. The panel provides an opportunity to update the appropriate BOdy on the problems and solutions to be found. It is also an opportunity to ensure quality control to assure the developer, donors and the groups affected that the necessary standards are being met and that rules or guidelines are observed.
	6.5.2 – Make systematic use of national expertise in consultant and ESS teams as standard practice	Even though international teams provide expertise in terms of methodology, it is the national expertise that understands the local practices and realities. The national expertise will also be able to provide support in updating the documents, providing complementary information and supporting the project roll-out without systematically having to look for expertise abroad. If several project are ongoing on the same national territory, this makes for the creation of national teams capable of managing challenges pertaining to large dam construction and administration.
6.6 - Ensure that all the plans are properly implemented (EMP, RP, LDP) .	**6.6.1** - The funding of all the plans (EMP, RP, LDP) should be an integral part of the funding package for the project.	The examples assessed by the panel show that the effective delivery of the environmental and social plans that constitute the result of the assessment process is a weak link in the process of taking environmental and social impacts into consideration in large water infrastructure projects.
	6.6.2 - Dam construction should begin only when the funding for the EMP, RP and LDP have been obtained.	In several cases the construction of works starts before the funding has been obtained for the implementation of the environmental and social plans. This causes delays and uncertainties concerning delivery of the planned measures, especially the social component.
6.7 -Establish an emergency plan before the operation of the works.	**6.7.1** - Develop an emergency plan for the downstream area of the project	Risks related to large water infrastructure include dam breakage, exceptional flood releases etc...It is essential to determine both the roles of different actors in the management of these emergency situations and the measures they should deliver.

Principles	Measures	Explanation
	6.7.2 - Ensure that all actors in the downstream area are informed about emergency plans and procedures.	It is important that the plan be well known to all the actors concerned to ensure its implementation if needed.

3. *Acronyms*

AfDB	African Development Bank
BO	Basin organisation
E&S	Environmental and Social
ECOWAS	Economic Community of West African States
ESIA	Environmental and social impact assessment
ESIAR	Environmental and Social Assessment Report
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Studies
IRR	Internal Rate of Return
IWRM	Integrated Water Resources Management
LDP	Local Development Plan
M&E	Monitoring and Evaluation
NGO	Non Governmental Organisation
PAP	Project Affected People
PRP	Provisional Resettlement Plan
ToR	Terms of Reference