IWRM-Catchment proofing tool: From isolated projects to IWRM

Key questions/considerations for alignment of existing project proposals with the IWRM approach

(to be used in coordination with green development checklist and SEA and EIA checklists)

Introduction:

This exercise guides the integration of the IWRM approach into existing isolated project proposals and programmes. These projects are either identified in the Catchment Plan or are in the pipeline from Ministries, districts NGO, or private sector. Projects proposal can be at the level of project idea, concept note or different stages of final design.

The first step in mainstreaming the IWRM is to map IWRM needs and opportunities. The second is to select IWRM options and the third is to Integrate the options in the project designs. IWRM has been identified as the single most effective approach to climate resilience and adaptation.

Projects should have a minimum scale that influences the catchment. Small projects that do not have significant influence on the catchment (but with significant local impact) are grouped in a different category.

Box 1. Recommendations to business for better Water Stewardship:

Improve site-level transparency of water information: The lack of transparency and data impedes verifying if real water savings has occurred.

Improve availability of basin-level water stocks and flows: Information on surface and groundwater levels and fluxes is critical to creating effective solutions.

Focus on shared water challenges, not efficiency solutions: Companies must understand whether interventions effectively address water challenges and reduce water risk, or simply transfer the challenges and risks to others downstream.

Understand the scales of hydrology, from local to catchment or basin: Failing to understand how water flows through a system can undermine the effectiveness of the intervention.

Understand water's role in the economy: Evaluate trade-offs between the use of water for food, energy, ecosystems or greater water security.

Be clear on definitions: In particular, pay attention to how terms such as "water efficiency," "water productivity," and "saved water" are used.

Understand allocations: Relate your water management activities to the basin and ask yourself how you are supporting water management in policy and in practice.

Source: IUCN Water Stewardship in Agriculture 2015 https://www.iucn.org/content/water-management-and-stewardship

The water steward programme of World Business Council on Sustainable Development and WWF have developed methologies to screen the whole industrial process to identify points that can be improved (WBCSD)

Seek solutions at the field and policy level in parallel: Only undertake field-scale interventions in water management if there is a parallel process of policy engagement to implement

an effective framework of water allocations.

Understand there is intense competition for "saved" resources; don't think you are banking them for your exclusive future use 13. Initiate a dialogue with parties interested in these savings.

IWRM benefits compared to isolated projects

- Efficiency through multipurpose investments
- Avoid mis-allocation of funds
- Higher water productivity (more crop and more financial return per m3 water)
- Reduction of risk
- Higher water efficiency
- Water quality control
- Value through reuse and recycling
- Reduced future conflicts around water resources
- Multiple goals values addressed at once

Overview of the process

Step 1 Mapping	Step 2 Select IWRM options	Step 3 Integrate/adapt
•IWRM issues •IWRM opportunities •Upstream effects •Downstream effects •Water/energy efficiency •Multi purpose potential	•Add-ons •Programmatic complementation •Safeguards	•Adjust design of projects and programmes

Figure 1 Overview from isolated project to IWRM

Objective: Assess and adapt existing projects and programme ready to implement to the IWRM approach

Authority: RWFA/REMA in coordination with MINECOFIN (Ministry of Finance and Economic Planning MINALOC?).

Used by: Experts with water management background: catchment officers, IWRM consultants, project developers in sectors

Inputs:

- Catchment plan
- Project/programme proposals/concepts/ideas of Ministries, NGOs, companies
- GWP framework for IWRM
- Toolbox

Shared benefits from shared water resources

Actions of one water user affects other water users up- and downstream in the catchment. The activity can reduce the water flow or alter seasonal fluctuations or it can change water quality. Water use by one sector can result in increased scarcity and higher water prices for other sectors. On the other hand expanding water services creates new job opportunities. Take for example the kilometers of protection buffer strips along rivers and wetlands. These buffers offer new agri-business opportunities around multiple uses of bamboo or reed. A dam offers opportunities for leisure and turism.

Integrated Water Resources Management provides an holistic approach to put water users in connection to each other. Coordinated planning within catchment boundaries leads to better water allocation and maximized benefits. It helps to mitigate water shortages and water related conflicts and to ensure that investments benefits all water users in the catchment.

To avoid the implementation of isolated projects, a quick-IWRM scan has been developed. This quick-scan maps the links between the projects and other water users in the catchment and orients IWRM adaptation of the project.The IWRM quick-scan helps to identify opportunities for value creation from adding the IWRM approach to isolated projects.

The 5-point quick-scan helps to analyze the links between projects and other water users in the catchment..

Figure 2 Benefits from IWRM vs isolated projects

5-point quick-scan integrating projects into the catchment

1.What are the effects on water users downstream and upstream (quantity, quality, access, risks)?

2.What are the new opportunities for value creation, business opportunities, potential of cash-flow.

3.What can be done to improve water/energy efficiency of the water use?

4.What improvement can be achieved by joint planning/ joint project development?

5.What can be done to reduce negative effects/ increase positive effects?

Moving from isolated project to the IWRM approach

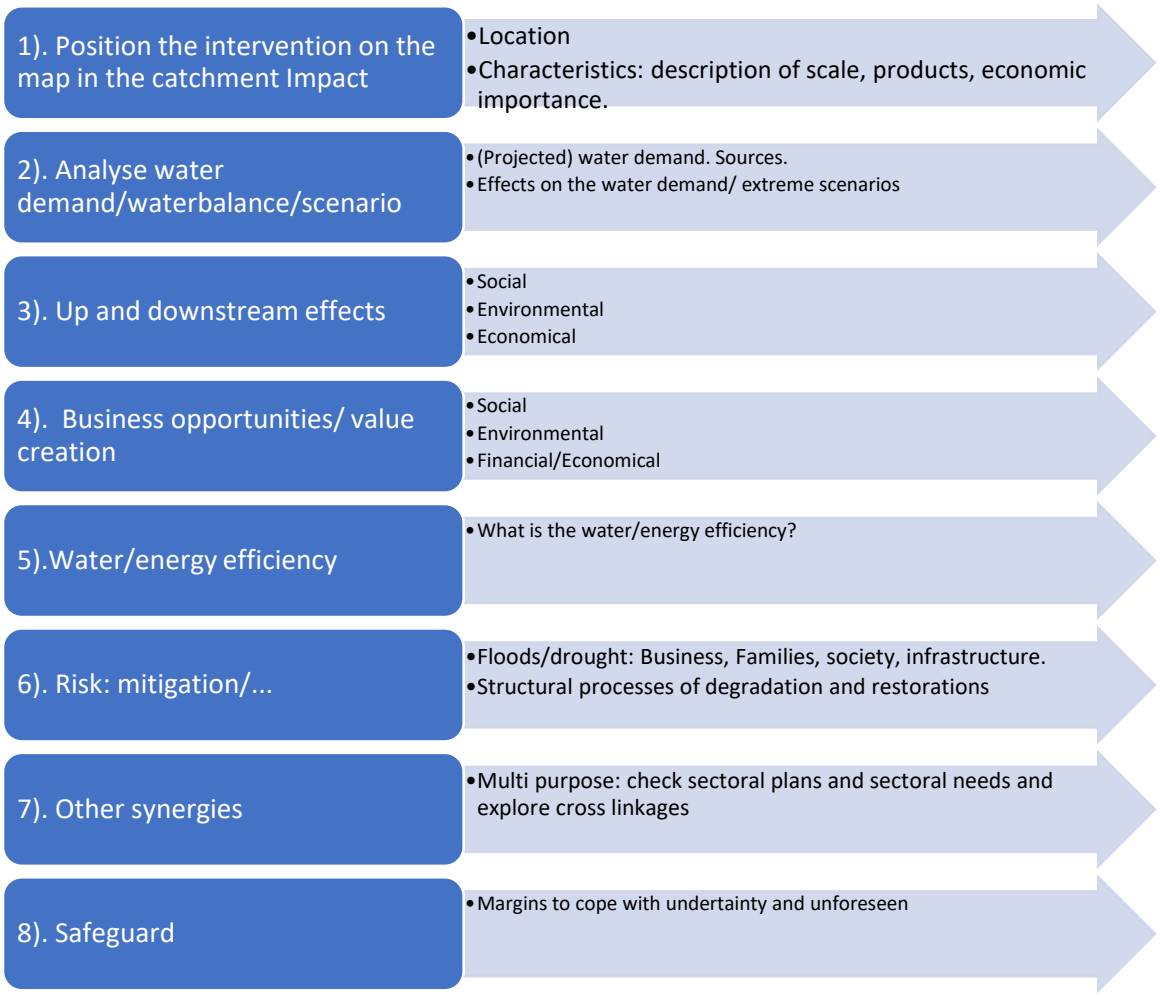

Figure 3 Process steps for IWRM mainstreaming

The IWRM consultant will screen the project/programme proposal on IWRM issues according to the 8 steps above. In table below there are examples of guiding questions and issues to be looked at. The

consultant will describe the situation and the potential to improvement in a report with recommendations. Based on these recommendations the project will be adapted.

Table 1. Guiding questions and issues for the IWRM mainstreaming

	Issue: social, environmental and financial, governance	
1.	Where is the existing project proposal into the catchment and what are main characteristics?	
2.	What is the expected demand on water in the catchment (weighting the intervention)	
3.	What are the up and downstream effects in terms of water balance, and water quality	
4.	Who are the water users/stakeholders affected?	
5.	What is the margin of uncertainty, unforeseen future. (what is considered safe margin?)	
6.	Map the positive and negative externalities of the intervention	
7.	What are the trends in WEAP model (water, soil)	
8.	What are the risk of misallocation (underutilized capacity in one or more sectors)	
9.	What does the intervention do to take into account the water efficiency and energy efficiency	
10.	Does the intervention mitigate risks (calculate and consider externalities into the true cost and benefit of the intervention)?	
11.	What are the options to develop multipurpose interventions: satisfy goals of different water users simultaneously	
12.	What synergy can be achieved by combining goals co-value creation (e.g. water supply and irrigation and tourism)	
13.	What are the plans and trends of water users upstream and downstream in terms of water quality and quantity.	
14.	What are the alternative interventions and major project components (technology,) that can achieve the same goal.	
15.	Overall level of uncertainty and risk on the health and balance of the catchment.	
16.	What can be done to mitigate the risk (no regret option)	
17.	Relative impact on the hydrologic system	

A final proofing checklist should of rating/scorings should be aimed at after time this will help to have a uniform comparing of outcomes.

Funding/finance

IWRM will lead to more efficiency and cost reduction on the long term (less over/under capacity, less misallocation of investments, risk mitigation for social economic development, reduced risk of conflicts among users). More integrated design parameters (higher returns). Blended value creation is increasingly appreciated by society: environmental, social and financial.

However, IWRM coordination for design and multi-party contract development leads to higher initial costs. The costs include: funding IWRM studies, cross sectoral consultations, validations and contracts development (transaction costs); and adapted designs expensive technology choice and incorporating additional programme components. Synchronizing planning among sector increases preparation time.

The IWRM IF will design a fund for the IWRM mainstreaming activities. Investment will be under another budget line.

Table 2. Items to be co-funded. (by the IWRM IF?)

Item	Budget
Studies IWRM mainstreaming	
Design studies	
Coordination/consultation meetings	
Learning visits	
Project proposal amendments	
Marketing of IWRM -catchment approach	
Contract development	
Monitoring	
Training/capacity building	

Table 3. Summary report structure: analysis, conclusions and recommendations

Analysis of situation	**Analysis of the options**	**Recommendation**
Summary of the mapping What are the interactions in system - True costs - Points to be improved Bench marking? The ultimate objective is to set some benchmark in relation to the best in class in the business or industry.	**What can be done to raise the IWRM** quality/integrality. improved: • Integrating multiple purposes, • Adaption for example staged implementation • add on for example waste water treatment • Governance implications and recommendations (e;g priorities in water allocation extreme dry years, responsibilities for other water management decision under other extreme situations flooding contamination). keep options open for future developments (do not take decisions that commit more than …% of the flow	**Priorities** **Action plan**

	Challenges e.g. who manages the project extending over more than one district Authortity of CTF Allocation of funds	Mitigation
W4GR Funding (IIF)		
Studies Consultations Training	Lobbying advocacy activities	Adapting designs Validation IWRM feasibility studies Final IWRM design
Marketing Ongoing marketing to mobilize the different sectors and finance to engage in catchment development Marketing is particularly important since the design capacity (and much of the investment capacity will come from the sectors.		

New capabilities

Development and implementation of joint imihigos around catchment development and management requires new set of skills.

Training module on mainstreaming IWRM tool based within the GWP toolbox. Mapping/action checklist will be applied.