THE INECO EXPERIENCE: MAIN OUTCOMES AND LESSONS LEARNED FROM PARTICIPATORY CASE STUDY PROCESSES

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ABSTRACT

Multi-stakeholder participatory processes are increasingly viewed as the only means of developing policies and strategies for alleviating real (or perceived) water-related conflicts at local, national and international level. They are considered as problem-solving, institutional innovations to democratise water management, manage conflict and enhance effectiveness of water management operations. Methods and tools employed to foster stakeholder engagement vary greatly, depending on issues at hand, opportunities for dialogue and information sharing, as well as the overall socio-economic and political context.

This paper outlines the approach followed in the EC-funded INECO Project (Institutional and Economic Instruments for Sustainable Water Management in the Mediterranean Region, Contract No: INCO-CT2006-517673) for fostering dialogue among diverse stakeholder groups and facilitating joint agreement on policy recommendations for mitigating water stress issues in seven Case Studies in the Mediterranean region. The scope of these Case Studies was defined through situation analysis, aimed at depicting significant water management issues faced by the local societies. Subsequently, through different methods (e.g. stakeholder workshops, surveys and questionnaires, individual consultation meetings with key actors), stakeholders jointly collaborated to identify ways through which these issues could be addressed in a desired water resources management situation. In this regard, the recommendations derived for problem mitigation incorporated the very different perspectives of stakeholders and facilitated the comprehensive analysis of the wider economic, societal, institutional and sustainability implications of proposed water management options.

1 INTRODUCTION

Sustainable water management is intrinsically linked to inclusive stakeholder participation. Stakeholder involvement can help embed public values and concerns on environmental protection in policy design, also maximising the acceptability of mechanisms for sharing impacts, risks and costs among the affected user groups (Soma and Vatn, 2009). Furthermore, the implementation of demand-side approaches to water stress issues necessitates involvement of water users, not only during the design, but also during the implementation stage of the relevant plans.

The emphasis placed on stakeholder involvement in EU and international policies is also manifested in most of the recent water-related research initiatives. Specifically targeted research is increasingly exploring ways of developing and sustaining collaborative learning processes, fostering the involvement of local decision-makers, user groups and citizens. Such

endeavours usually encompass a broad range of tools and methods, tailored to local political contexts and social conditions. Approaches are designed so that interest groups have the opportunity to articulate their preferences, hopes, expectations and problems, and share their views and experience on the issue(s) at hand (Rowe and Frewer, 2000; Jeffrey and Russel, 2007). These "social experiments" in water policy framing usually form part of an overall effort to build the capacity of the local societies to address their problems in an integrated and holistic way, based on the premise that stakeholders are more likely to own and apply new ideas that they have helped to develop themselves (Moriarty et al. 2004). In this context, the often required institutional innovation to enhance sustainability and accountability in water management is better accepted and applied when defined through joint planning, rather than when stemming from research outcomes or decision of public authorities alone.

The approach followed within the framework of the EC-funded INECO project was primarily aimed at fostering constructive engagement of stakeholders at the local level. By choosing to focus on water management issues shaped by local specificities, the project worked towards the mobilization of local actors to adopt soft-path solutions. This paper presents the methodological approach followed for the development of local Case Studies, aimed at the identification of instruments and the formulation of policy proposals for addressing water management issues at local level.

2 METHODOLOGICAL APPROACH FOR CASE STUDY DEVELOPMENT

2.1 General Framework and Premises

The INECO Project was launched with the aim to introduce an interdisciplinary approach to water management, building upon the integration of three major aspects: environment, economics and society. The project's main strategic goal was capacity building for promoting constructive engagement among stakeholders towards Integrated Water Resources Management (IWRM). INECO, through its activities and analyses also emphasized on the principles adopted by the EC Water Framework Directive 2000/60, for integrated management at the river basin level, recovery of water service costs, implementation of water pricing policies towards the attainment of environmental objectives and public participation. Starting with the premise that sustainable water management is intrinsically linked to stakeholder involvement and participation, the project focused on discussing shared problems in the decision-making processes and the deficiencies of the current water governance structures in Cyprus, Tunisia, Egypt, Lebanon, Syria, Algeria and Morocco.

Of the water management challenges defined in The Hague Ministerial Declaration on Water Security in the 21st Century, three were identified as broadly related to the project's scope and objectives and to the water management issues faced in most Mediterranean Countries:

- The **"Sharing water"** challenge, with reference to the processes and mechanisms (institutional, regulatory, legislative, economic) for water allocation at the river basin level, at the service provision level and at the transnational level.
- The **"Valuing water"** challenge, with reference to the assessment of costs and values associated with water use, the implementation of the cost-recovery principle for supporting sustainable water service delivery, and the implementation of the user-pays and polluter-pays principles, while at the same time ensuring equitable access to water resources.

- The **"Governing water"** challenge, referring to the institutional and regulatory framework that creates the enabling environment towards the implementation of IWRM.

Each challenge suggests different and complementary issues that need to be addressed within a water management system, so as to achieve long-term sustainability without compromising the well-being of all user groups. These challenges and their relevance to the Mediterranean context formed the backbone of the project's Case Studies; they further motivated efforts towards the constructive engagement of stakeholders in the different areas for discussing implications of alternative or complementary institutional and economic responses for water stress mitigation (Fig. 1).

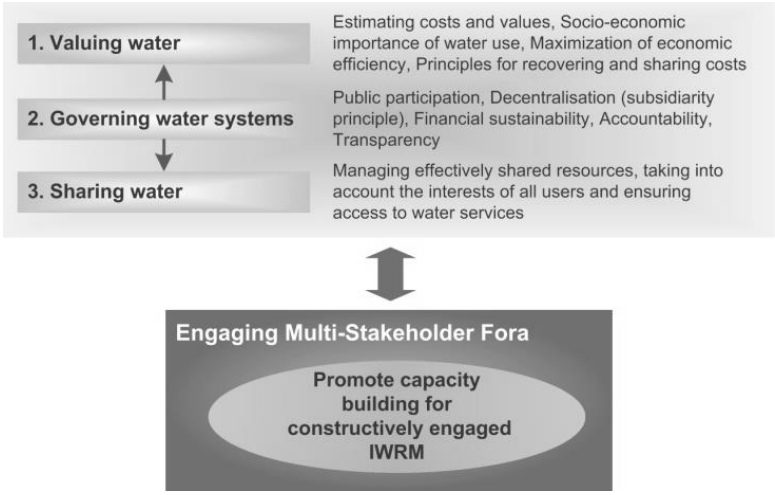

Figure 1: The INECO Framework and Goals

In an ideal IWRM situation, water resources are managed at the appropriate level, in a globally sustainable way, and balancing the diverse technical, financial, social, economic, institutional and environmental aspects. At the same time, the water-related interests of all stakeholders are considered in decision making on water use. In the above context, stakeholder involvement and participation governed the entire INECO cycle of Case Study development, in order to:

- Ensure that project research and outputs are in line with the needs of local societies;
- Raise awareness among user groups on the impacts of their use on other users, including the environment, and encourage civic responsibility in water management;
- Foster constructive engagement among parties concerned for reaching consensus on solutions to local water management issues of common interest.

The following section outlines the processes followed for stakeholder involvement and participation, focusing primarily on procedures and tools employed, so as to attain the widest possible visibility and impact at local level.

2.2 The Case Study Development Process

The approach followed for the development local participatory processes in the INECO Case Studies was based on the method of Objective Oriented Project Planning - OOPP (GTZ, 1997).The OOPP method, which is based on the Logical Framework Approach, has been proposed as a tool for supporting urban participatory planning processes (UN-Habitat, 2001). It is broadly divided in three stages:

- The first stage, **Problem Analysis**, involves identifying stakeholders, their key problems, constraints and opportunities; determining cause and effect relationships between threats and root causes.
- The second stage, the **Analysis of objectives**, concerns the development of policy objectives from the identified problems, and the identification means to end relationships.
- Finally, **Option analysis** includes the identification of different options that can contribute to the achievement of objectives. Options are then evaluated by stakeholders in order to determine the most suitable strategy for achieving the mitigation of the problem at hand.

In INECO, the OOPP method was implemented through a series of Regional Activities that followed the schema presented in Fig. 2, in order to arrive to a synthesis of findings into regionally adaptable guidelines.

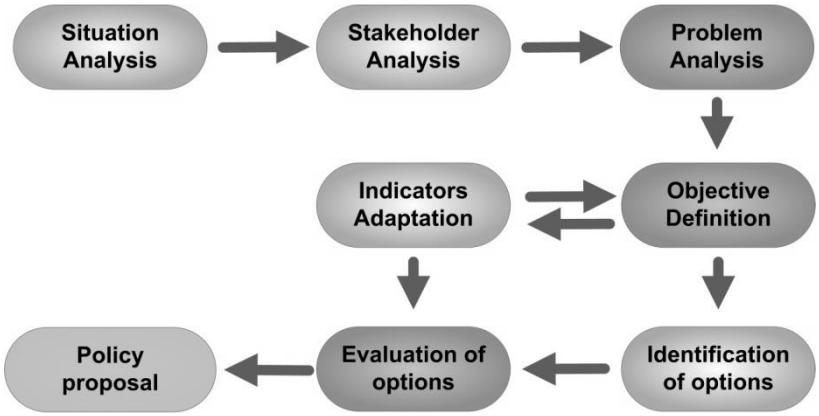

Figure 2: The INECO Framework for Case Study Development

The first step involved the **"Situation analysis",** for identifying a water management issue of concern to the local society and decision-makers. Employed tools involved data collection and review, and in some cases, targeted interviews with decision-makers. Two important outputs were derived from this stage: (a) the identification of the range of natural, technical, financial and institutional constraints facing the water sector in each country/region; and (b) the analysis of the current governance setting, mapping responsibilities of the actors involved in water management operations, and the relevant rules and regulations defining the overall (water) policy context.

The analysis of the current situation led to the selection of an issue considered important in each region of interest, but also of relevance to other countries of the Mediterranean Basin, hereafter described as "focal problem". Subsequently, the **"Stakeholder Analysis"** step involved the identification of stakeholders, and the mapping of their constraints and opportunities in relation to the issue at hand. This step entailed the implementation of individual stakeholder consultation meetings, to identify who can affect or is affected by the discussed issue and is likely to be impacted by alternative solutions.

The **"Problem Analysis"** step involved the identification of causal interrelationships between threats and root causes of the focal problem. The key purpose was to ensure that "root causes" are correctly determined, so that they can be subsequently addressed, and that the analysis does not merely focus on the symptoms of the discussed issue. Due to the importance of this step, the analysis of the focal water management problem was undertaken in three stages. Firstly, a preliminary identification of causes and effects of the focal problem was undertaken through data collection and personal knowledge and experience. Causes and effects were mapped into a draft "Cause-and-Effect" diagram, the "Problem Tree" of each Case Study, so

as to facilitate discussion with stakeholders. In the tree diagram, the main (or focal) problem was represented as the tree trunk. The causes of the problem were designed as the tree roots whereas effects were the tree branches. Following from this preliminary analysis, indicators relevant to the identified problem causes and effects were developed, so as to objectively highlight the significance of each component. Although the development and adaptation of indicators was in some cases hindered by limited data availability, it also offered the opportunity for developing a clear framework for monitoring the effectiveness of current and future policies for the mitigation of the selected problems. Findings were then extensively discussed in dedicated regional workshops, which aimed at consolidating result outcomes and reaching consensus on the different degree of impact of the identified causes (minor or major, one-time or permanent). Workshop events also fostered dialogue between parties concerned, allowing the free exchange of views on current policy deficiencies and areas where action needs to be prioritized.

The next step included the **Definition of Policy Objectives**, implemented again in two stages:

- In the first stage, the validated Case Study "Problem tree" was used as the basis for the development of an "Objective tree". The process involved: (a) reformulating problems into positive, desirable conditions, and (b) changing relationships from cause-effect into means-ends.
- In the second stage, the objective tree was presented to local stakeholders in dedicated workshops or meetings. Stakeholders collaborated in modifying the tree, ensuring that objectives are feasible, in line with current policy priorities and contributing towards their implementation.

Throughout the process of analyzing problems, effects, causes and developing objectives, views on potential merits or difficulties, and risks associated with different possible interventions were also brought to the table. Proposed interventions served as the basis for the **identification of alternative, mainly institutional and/or economic options** that could contribute to the achievement of the suggested objectives. Suggested responses were scrutinized against deficiencies associated with the implementation of instruments already in place, and supplementary ones were added, according to stakeholder suggestions, previous research outcomes, international experience and literature review.

The **evaluation** of the suggested responses was undertaken in two steps. Firstly, stakeholders were asked to evaluate broad categories of options, not focusing on specific measures (e.g. public participation instead of Advisory Councils or focus groups). This first step was mainly aimed at assessing the feasibility and the applicability of suggested options on the basis of the following criteria: (a) individual stakeholder preference, taking into account effectiveness and applicability, (b) relevance to address current water management problems, (c) relevance to the focal water management problem of the Case Study, (d) need to prioritize in terms of actual implementation, and (e) relevance to future water management challenges that can be envisaged by stakeholders at national level.

Approaches selected by the different groups were then more extensively discussed so as to refine the context of proposals made, and identify policy pathways and prerequisites to their implementation. They were further evaluated, using the criteria framework described in Table 1, which was defined taking into account the "headline" overriding criteria for IWRM (Environmental Sustainability, Economic Efficiency, and Social Equity).

Table 1: Framework the evaluation of institutional and economic instruments

Category	Criteria
A. Effectiveness	**A1**. Contribution to the achievement of the key objective **A2**. Mobilization of local community **A3**. Promotion of technological/institutional innovation
B. Social considerations	**B1**. Affordability for sensitive user groups (poor, women etc.) **B2**. Promotion of inclusion of all user groups **B3**. Cultural/ethical acceptance **B4**. Alleviation of conflict among user groups
C. Economic efficiency	**C1**. Financial cost of implementation **C2**. Negative economic impact on important sectors (agriculture, industry, tourism) **C3**. Impact on regional economic development strategies
D. Ease of implementation	**D1**. Need for institutional and legislative reforms **D2**. Required effort for integrating with existing policies for other sectors (e.g. agriculture, industry) **D3**. Administrative barriers to implementation **D4**. Existing capacity constraints (human, technical, managerial)

This framework was translated into a dedicated questionnaire, aimed at mapping the perceptions of the different groups in matters of:

- Effectiveness, to evaluate contribution to the achievement of the objectives set, but also to the enhancement of collaboration, public participation and community empowerment.
- Social considerations, to map impacts on equitable access, social sustainability and affordability, especially for low-income groups and users.
- Economic considerations, outlining the overall economic impact that an option or proposal can have in the regional economy and local development strategies.
- Ease of implementation, describing efforts required for implementation, taking into account the current political environment, legislation, existing administrative structures and capacity constraints.

It should be noted that the approach described above was not implemented as a strictly linear process; similarly to all related efforts, stakeholders did not move mechanistically from one step to the next, always in a forward direction. Planning is an iterative and creative process; the selection of an option often involves significant leaps in thinking, which cannot be neatly slotted into a specific “step” of the overall process.

Despite the limited time of INECO, significant efforts were devoted to the maximization of local opportunities for multi-faceted solutions, by fostering the discussion among all interested parties before an option (in this case an institutional or economic instrument) was proposed. To achieve this goal, efforts were made to mobilize stakeholders upfront, and give floor to their participation in the analysis of local problems, the definition of objectives and the discussion and evaluation of suggested options. Throughout the articulation of the process, emphasis was also given to openness and inclusiveness; stakeholders were regularly informed of all outcomes and replies of other parties, whereas collected data and information was made accessible to the public through the distribution and web uploading of material.

3 LESSONS LEARNT FROM THE IMPLEMENTATION OF THE INECO CASE STUDIES

As depicted from Table 2, which summarises the scope of the seven Case Studies developed within the course of the project, the work undertaken was associated with diverse water management issues, common in many countries of the Mediterranean Basin. The analysis of the issues at hand, in collaboration with local decision-makers and user groups portrayed the significance of stakeholder engagement in the promotion of more sustainable solutions, but also the need for integrating different policies affecting water management operations.

Table 2: Scope of the INECO Case Studies

Case Study Area	Scope	Associated issues
Pegeia, Cyprus	Groundwater depletion	Wastewater reuse & competition between uses Development patterns
Tunisia		
Oum Er Rbia Basin, Morocco	River Basin Management/ Water Allocation	Intra and inter-sectoral water allocation at the basin level
Damour River Basin, Lebanon		
Bahr-Basandeila, Egypt	Urban water management Industrial pollution prevention and control	Hyper-urbanisation Sustainability of water services
Barada River Basin , Syria		
Seybouse River Basin, Algeria		

Throughout the overall process, individual Case Study work highlighted the relevance of developing (new) policy instruments through joint planning and in close collaboration with beneficiaries: in addition to other factors, deficiencies of past water management policies were also due to the fact that there was limited exploitation of local knowledge on constraints, potential impacts and local specificities. Furthermore, and as the mitigation of water management issues seldom lies on water management policies alone, focus should be placed on ways to bring together policy-makers, planners and decision-makers from all sectors affecting or affected by water management operations, in an effort to develop integrative and concerted action, maximising the use of available resources (natural, financial and social) to enhance economic growth without compromising environmental sustainability. In this regard, Table 3 summarizes policy questions that emerged from the INECO Case Studies, highlighting the commonalities of constraints and problems faced by decision-makers.

Table 3: Policy questions from the INECO Case Studies

Case Study Context	Theme	Policy-related questions

River Basin Management	Supply enhancement vs. Demand management	• Infrastructure financing & cost recovery
		• Efficiency improvements
		  • In water use (subsidies for technology improvements)
		  • In water allocation – phasing-out of low value uses

	Development of participatory processes	• Means for conflict resolution • Means for allocation of water between competitive uses/users • Public information organizations on local WM issues
River Basin Management and Groundwater Management	Public subsidies vs. economic efficiency for low-value uses	
	Enforcement of groundwater abstraction metering vs. user group opposition	
	Community management (bottom-up) vs. centralized management (top-down)	Feasibility, capacity, financing
Urban water management/Pollution prevention and control	Competitiveness vs. environmental protection	Incentives towards cleaner production in the industrial sector Incentives/disincentives to excessive agrochemical use
	Strengthening the participation in voluntary programmes	Incentives, user awareness, consumer awareness
	Sustainability of urban water services	Funding, cost recovery, affordability and access Community management in rural areas

Furthermore, what was demonstrated through individual Case Study work, was the need to enhance the capacity of institutions, authorities, groups and individuals to make informed choices and transform these choices into desired actions and outcomes. Towards this end, the social experiment of INECO attempted to enhance local capacity towards constructively engaged IWRM; through participatory processes and dialogue, the project brought different actors at the table to share their views and discuss alternative solutions and their implications. The success and impact of this experiment is to be judged by local stakeholders; however, the mutual learning process developed has led to a better understanding of the societal and institutional changes required for sustainable water management, of how these are currently perceived in each region analysed, and of how future research could be better oriented to address local policy needs.

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