On the appropriateness of public participation in Integrated Water Resources Management: some grounded insights from the Levant

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Abstract

Although public participation in the service of Integrated Water Resources Management had aroused much attention as a practice, little is known about stakeholders' understandings of and expectations towards the process. Using a grounded approach we develop an interpretive methodological framework and use it to explore water management concerns and the appropriateness of different forms of stakeholder participation at catchment level in Jordan, Syria and Turkey. Survey respondents include local sector experts and delegates at three participative workshops. Elicited responses on desirable forms of participation based on definitions inspired by Arsntein's ladder of citizen participation, reveal a common preference for consultation, informing and partnership. However, differences were observed when investigating stakeholders' learning outcomes from participative workshops. The role of social learning is confirmed as an important factor contributing to stakeholder dialogue over the management of a state-strategic, local public-good management and democratic decision making process. Public participation and social learning appear to be perceived as appropriate in IWRM even in countries with adolescent democratic traditions.

Keywords: pubic participation, IWRM, Middle East, grounded theory

1 What is this thing called IWRM?

Traditional or fragmented approaches to water management which distinguish between resources and services, between potable water production and supply

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and wastewater collection and treatment, and between water for municipal, industrial and agricultural purposes, have shown limited efficiency (GWP-TAC 04, 2000; World Bank, 2004), and are suggested as contributing factors to what is now referred as the "world water crisis" (UNESCO-WWAP, 2003, p. 1.) or more pertinently as the "water governance crisis" (GWP-TAC 04, 2000, p. 9.). Integrated Water Resources Management (IWRM) as an aspirational approach to sustainable development, is based on a participative approach (UNCED, 1992; UNEP, 1992; UNECE, 1998), and is defined by the Global Water Partnership as "a process which promotes the co-ordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems" (GWP-TAC 04, 2000, p. 22.). IWRM principles affirm that economic, environmental and social systems are linked and change through reciprocal interactions. Broadly speaking, human activities impact on the hydrological cycle as a whole, and reciprocally the water cycle influences human life and the decisions that need to be made to continuously construct human societies. As a resource, water is fragmented between surface water and groundwater. Water services are fragmented between drinking water treatment and distribution, collection and wastewater treatment. The expression Integrated Water Services Management has not yet become the literature's most favourite leitmotiv, but it would already be obsolete. Such approaches lack coherence when a holistic approach is demanded as claimed by the EU and UN agencies (CIS, 2003; UNESCO, 2006) because responsibilities, competences, and resources are scattered over a multitude of institutional layers and private actors' interests which prevent the commended integrated approach (World Bank, 2007).

Water is also considered as a valuable resource in terms of economic added value for farming and industry, as a local-essential element for human and social development, as a strategic resource for the state, and sometimes as a means for economic domination and a justification for conflict. Hence, to address water resources management is to address the interconnections between open systems that are socially and economically anchored with technical and environmental challenges managed by local, national and international institutions; a conclusion widely drawn by, inter alia, Berkes et al. (1991); Biswas (2001); Borrini-Feyerabend (1997); Darier et al. (1999); De Marchi & Ravetz (1999); De Marchi (2003); Dietz (1995); GWP-TAC 04 (2000); GWP-TAC 10 (2004) and Jeffrey (2006). Consequently, the current differentiation between water "resources" and water "services" paradigm in the context of the term "integration" is counter productive as the management of both resources and services must be taken into consideration for integration to become meaningful. As suggested by Ker Rault (2008) the use of the Integrated Water Management would appear to be more appropriate to reflect the complexity of water management challenges. Fragmented and uncoordinated traditional top-down decision-making practices have been challenged by both insiders (those who "have" power/voice in decision making process) and outsiders ("have not" power/voice) (European ECO Forum, 2003; Forrester, 1999; Webler, 1999; Webler et al., 2003). At the heart

of the IWRM paradigm is the concept of public participation, characterised by the twin demands of access to information and access to just process.

1.1   Public Participation in IRWM

Just as there is no common detailed understanding of, and objective for, IWRM, so the definition and objectives of public participation (as commended by milestone declarations from the UN and alike bodies), remain ambiguous (UNESCO, 2006). Public participation or any synonymous term is much like motherhood and apple-pie, everybody agrees on the principle but understandings quickly diverge once it comes to implementation and practice (Webler et al., 2001). Indeed participation is a "catch all" term, with as many objectives as there are stakeholders leading to a loss of sharpness in meaning (Robert, 1995; Webler, 1999). Managing water is complex not only because of the necessity to encompass several types of qualitatively different system, but also because it concerns everybody- a range of experts, of sectors, of institutions, of associations of users, powers, beliefs, uncertainties, leading to disputes, conflicts and the pursuit of a just share of what we would characterise as a "state strategic local public good". There is a need to reconcile rights and duties over water management within and outside the public sphere prior to defining an integrated water policy, but also to query which type of participation is perceived as suitable for IWRM. Many authors (e.g. Arnstein, 1969; Beierle & Cayford, 2002; Berkes, 1994; Dorcey et al., 1994; Eidsvik, 1978; English et al., 1993; Fischoff, 1998; House, 1999; Kessler, 2004; Motion, 2005; NRC, 1996; Pomeroy, 1995; Pretty & Shah, 1994; Rowe & Frewer, 2000, 2004; UNDP, 1997; Wilcox, 1994) define decisional participation using terms such as "actually", "actual", "real", "meaningful", and they insist on the early stage relevance of stakeholder engagement as a central feature of participation. Webler (1999) recognised that even popular typologies of participation are not universally accepted, because there are still reasonable people that disagree about the appropriateness of empowering citizens who are not legal representatives to make public choices. However in broad terms, the function of participation encompasses three different concepts, reflecting an increasing depth of ownership of public good management based on both power and communication; (i) informative participation, (ii) consultative participation and (iii) decisional participation (CIS, 2003; English et al., 1993; Rowe & Frewer, 2005). Any synonymous participative concepts whether called involvement or engagement referring to stakeholders, affected or interested parties are included within the concept of public participation as discussed in this article. A debate concerning the extent to which they are similar or not, especially within the context of IWRM is not pursued. Unless otherwise stated, Public Participation (PP) as used in this article, has a voluntarily vague definition in order to avoid discriminating any given meaning (as presented above) and with the strategic intention to not bias or influence the stakeholders' own understandings.

Although a review of typologies suggested by the authors mentioned above helps in presenting the major characteristics of PP, it does not support an holistic approach to the issues at stake, because the design of a specific participative

approach (and a fortiori a sequence of participative exercises) will be context and issue dependant, and all socio-political situations are fundamentally unique (another characteristic of complex problems). One can anticipate that the definition of the issue at stake will impact on the form of PP considered relevant by the competent agency. Moreover, PP is a dynamic process that becomes more efficient in producing consensual and inclusive decisions as practice and trust are gained (Pateman, 1970; Pahl-Wostl, 2002). Participation has produced decisions that were responsive to community interests and values, and also helped resolve user conflicts, build trust, and educate the public about the environment, within conflicting relationships of power, communication and objectives (Kessler, 2004). The confusion that surrounds the analysis of public participation is partly generated by the dissonance between the purpose for initiating a participatory process and the expectations of those involved, including the competent or organising agencies because participation "remains an empty word until procedures are set in place to make it real and effective" (De Marchi, 2003, p. 174.).

1.2   Making sense of PP in IWRM

As briefly presented above, Integrated Water Resources Management is a complex problem, i.e., the set of appropriate solutions is a function of the understanding and construction of the problem and of the implications of proposed solutions by stakeholders. Top-down decision making processes for water related issues are unable to accommodate the growing and diverse needs of all stakeholders. Moreover, the objectives and preferred modes of public participation will vary with changing understandings of the issues at stake and with the evolving roles and nature of the participants. Hence, the meaning of both IWRM and PP are subject to interpretation by different stakeholders, because the concepts of uncertainty, risk management and construction of a societal project challenge scientific expertise, political power, and concepts of democracy especially in terms of the representation and legitimacy of decisions concerning public good management (Dryzek, 2000; De Marchi, 2003; Feeny et al., 1990; Fiorino, 1990; Funtowicz & Ravetz, 1993; Laird, 1993). Furthermore, interpretations of the objectives of IWRM and the participatory practices that support them evolve as problems are being identified and as solutions are being developed. These types of societal problem are known as "wicked" (Rittle & Webber, 1973, p. 160.; Fischer, 1993, p. 172.), "ill-structured" (Simon, 1973, p. 181.; Dunn, 1988, p. 721., "unstructured" (Hisschemoller & Hoppe, 1996, p. 43.) or "complex" (Stacey, 1996, p. 183.; Conklin, 2005, p. 1.). Changing interpretations and expectations, or the lack thereof, affect the flexibility of actors and institutions making the implementation of PP in IWRM a complex problem (Ker Rault & Jeffrey, In Press). In this article the adjective "complex" will be used to qualify the kind of societal problem explored, (i.e., water policy) while "wicked" is preferably used to qualify a conceptual tool, a means for addressing a problem and structuring a problem solving process (i.e., public participation).

The increasingly frequent use of these terms is part of a steady intellectual

attempt to construct a contemporaneous and post-modern approach to understanding societal issues and re-phase (re-tune) scientific method to the diversity of areas involved to define what the problem is. As the ontology is changing, the epistemology is being redefined. In the following we differentiate between the societal issue itself (which is perhaps better described through a systemic approach as defined by Morin (2005)), from the means or tools commended as method to cope with the inherent uncertainty of these complex problems. In other words, PP as a discursive or deliberative tool is a wicked process that in some circumstances is claimed to strengthen the public sphere (Hall et al., 2007) where the community of interested and affected actors can argue the extent of the consequence of their actions and hence contribute to solve complex societal problems.

How can one make headway on a mutually acceptable solution if the concerned parties cannot agree on what the problem is, nor on the problem solving process? We argue with others that the implementation of the principles of PP in IWRM is no longer a technical or scientific issue, it is a socio-political affair that questions what a democratic decision is, and what sort of risk governance we want to live with (Deleon, 1995; White, 1996; Graffy, 2006). Nevertheless, little is known about the understandings which stakeholders and the public in general have concerning water related issues. Symmetrically, the analysis of PP, of its claimed objectives, rarely focuses on stakeholders' understandings and preferences concerning the level or form of participation. Although participation is advocated to promote a consideration of stakeholders' views on issues that affect them, little is known about their motivations for taking part in participative initiatives, and their preferred definition of, and role for, participation.

In order to advance knowledge of the diversity of understandings of public participation, it is important to compare and contrast the claimed objectives of PP as expressed by different stakeholders. The goals of public participation may be viewed very differently, depending on the perspectives taken by the various actors on their respective roles in the deliberation process. This confusion can be partly clarified by direct elicitation of the reasons for engaging in PP, and the objectives being pursued by following a participatory approach. This paper reports the results of a grounded approach to investigating understandings and expectations of participation in the context of IWRM. Subsequent sections present a grounded epistemology based on interviews and workshops and define an interpretive framework that is subsequently used to shape the deconstruction of the dynamic between preferred forms of public participation and IWRM issues.

2 Method—Grounded elicitation for exposing understandings of water-related issues and meanings of public participation

The Levant (Eastern Mediterranean) is one of the world's regions where water scarcity is already a well acknowledged problem. However, the situation continues to deteriorate and the local water infrastructure in many states will soon not be able to meet the demand for domestic, agricultural and industrial growth. An holistic and innovative approach based on stakeholders' needs, sharing knowledge, and a sustained commitment towards the protection of the resource is necessary to control competition for water and to learn to cope with rapid change (Karousalis et al., 2006; Lancaster, 1999; Roudi-Fahimi et al., 2002; UNDP, 2003; World Bank, 2003). Three neighbouring countries provide a context for this study; Jordan, Syria and Turkey. The study is focused in each country on a single catchment only, respectively the Amman Zarqa Basin, the Tartous Mohafaza and the Gökova Bay as indicated in Figure 1.

2.1 Grounded theory methodology for complex problems

The nature of both IWRM and of PP calls for a multi-method and transdisciplinary approach to research because understanding complex societal problems requires information from several sources and the production of new knowledge from both qualitative and quantitative paradigms (Chalmers, 1999; Nowotny, 1999; Nowotny et al., 2006; Maxim & van der Sluijs, 2007; Stacey, 1996). Grounded Theory Methodology (GTM) is a general qualitative research methodology aimed at developing theories that are grounded in systematically gathered data (Glaser, 1978; Glaser & Strauss, 1967; Myers, 1997; Pandit, 1996; Strauss & Corbin, 1994). GTM is not a theory as such, but a methodological approach to research based on an inductive phase involving interpretation of interacting constructions of meaning for the agency studied. GTM is thereby both the construction of a theory and of a methodology (Dick, 2005), because data collection, analysis and conceptualisation are not sequential, but can, and generally do, take place simultaneously, hence both method and theory are concomitantly emergent (Charmaz, 1994; Glaser, 1978; Mehmetoglu & Altinay, 2006; Strauss & Corbin, 1998). The ambition of this research is to understand the construction of meaning of public participation in IWRM. A GTM approach based on iterative data collection and analysis is considered a pertinent methodology to explore actors' perceptions and understandings of complex societal problem, because through this approach one can deepen the scope of the study and investigate detailed aspects of a phenomenon as well as the interactions between them.

In its original and apparently more simple form, GTM is structurally built on two basic intellectual elements; concepts and propositions, both of which are generated through coding, initially open then selective, using theoretical sampling, memoing, and sorting (Glaser & Strauss, 1967). A two phase process of
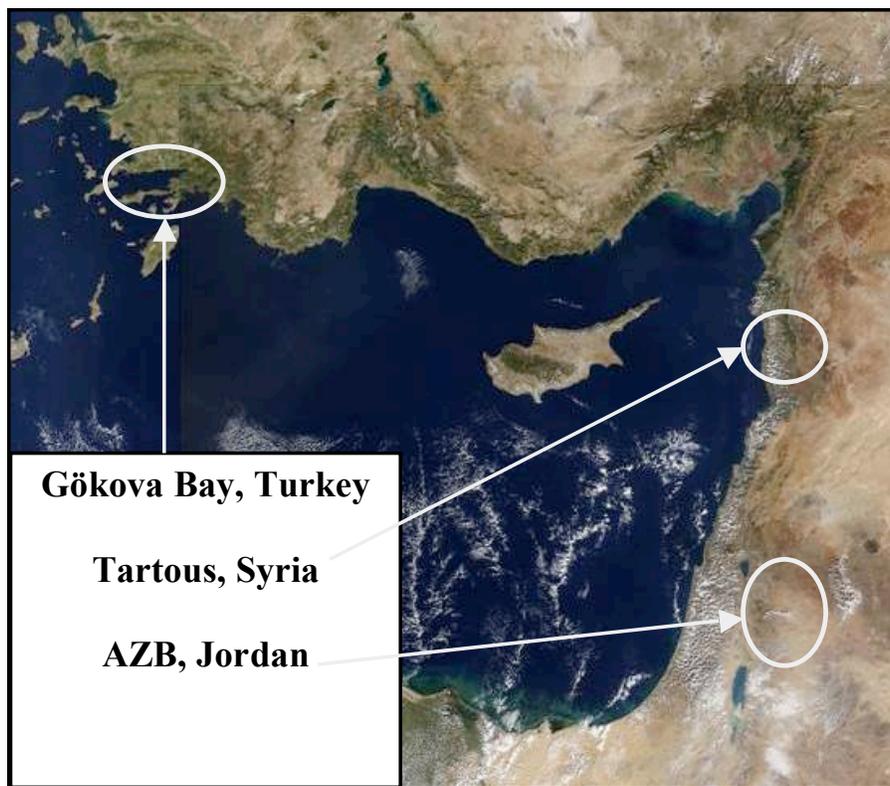
Figure 1: Map of the three case study areas in the Levant (Adapted from http://visibleearth.nasa.gov/view_rec.php?id=4201 and http://veimages.gsfc.nasa.gov/4428/Turkey.A2002264.0845.500m.jpg)

data elicitation and analysis as prescribed by GTM was adopted: (i) an open phase where coding and sampling capture the diversity of elements characterising the phenomena studied (concepts and propositions); and (ii) a selective or theoretical phase, where coding and sampling focus on the core category (uniting concepts and propositions) and theory development. The theoretical or selective phase, with theoretical or selective sampling , was used to clarify and sharpen the object of investigation and hence facilitate understanding of the construction of meaning of IWRM challenges and the role of PP as articulated by stakeholders. The links between successive data sets can be considered as a cascade of open and theoretical phases.

GTM has been the subject of vigorous debate, first between the two co-founders and subsequently between those who have followed one or the other's school of thought. Strauss and Corbin's approach includes an additional level of conceptualisation based on a conditional matrix that is a tool to analyse the phenomenon in relation to the wider environment (Strauss & Corbin, 1994, 1998). The debate over the use of the conditional matrix, or rather about the appropriateness of it, according to the object studied is eluded here (see Ker Rault, 2008). However, given the ontological nature of both PP (a wicked concept) and IWRM (a complex problem) all data are elicited immediately and no conditional matrix is used a-priori.

2.2 Data elicitation: scoping interviews, stakeholders questionnaires and their interpretation

Information on existing practices and the perceived added value of PP in integrated water management was initially elicited through seven semi-structured interviews with water experts (hereafter called "scoping interviews"), three in Jordan, two in Syria and two in Turkey. The interviewees were academics, senior decision-makers in competent agencies and one representative of a foreign development agency. The analysis of the themes elicited via the scoping interviews (executed during March 2005) led to the development of an interpretive framework (reported in Section 3), and of a questionnaire submitted to local and regional stakeholders who were gathered for two-day workshops held between May and June 2005 in each of the case study areas (reported in Section 4). The workshop participants, eleven in Jordan, twenty-seven in Syria, and seventeen in Turkey, included members of central and local authorities, water authorities, environmental agencies, the agricultural and tourism sectors and environmental NGO's. Women represented a fifth of each national group.

The information elicited via open questions during the workshops was coded into categories which illustrate the participant's understanding of the challenges concerning water management. These data (statement-answers) were then further organised into categories via the construction of an open code which subsequently became the focus of successive enquiries (such as questionnaires and complementary interviews) . The robustness of an open code can also be tested statistically using criteria elicited from other sources such as literature. All these comparisons of understandings of water related issues, IWRM concerns,

comparisons of stakeholders' understanding of public participation and their expectations towards decision makers enrich the concepts, the categories, and the propositions to provide bricks for the development of a grounded theory.

In order to enhance consistency in interpretation of the elicited information, data were categorised according to the open code derived from the scoping interviews by the author and then categorised by two other researchers. Disagreement regarding categorisation was recorded as "interpretive challenge". The Interpretive Challenge Ratio (ICR) reported in subsequent sections describes the frequency of disagreement over response coding For example, an ICR of 0/51 means that no statements were the subject of disagreement out of 51 statements, while an ICR of 5/51 means that five statements out of 51 were coded differently by at least one researcher interpreting the statement. Statements subject to two possible interpretations were allocated to the category selected by two of the three researchers. No statements were coded differently by all three researchers.

Nevertheless, it is pertinent to comment on the reliability and authenticity of the elicited information in terms of the extent to which the participants openly and freely expressed their opinions. To what extent can the responses be used as a reliable data source? There is no definite answer to these methodological doubts, but confidence in the reliability of the data is based on the questionnaire design, the participants' dedication in completing the survey, and last but not least, the fact that the fieldwork is rich in anecdotes illustrating the stakeholders' and researchers' mutual respect. The questionnaire design and content were quality controlled by English speakers, then translated in Jordanian Arabic, Syrian Arabic and Turkish by local researchers and submitted to further quality control. The answers were translated back to English by local researchers briefed on the method used, and translations were double checked. The organisation of the normative values of PP—i.e., of its appropriateness in IWRM—is acknowledged to be the result of a double subjective interpretation in that the understanding of the interviewees and the interpretation of the observer are involved. Recognition of such constraints is crucial in studying both sociopolitical issues and complex problems (Giddens, 1986; Foucault, 2000; Morin, 2005).

3   Developing an interpretive framework

The information elicited via the scoping interviews is rich but drastically inhomogeneous and dichotomised. The opinions, impressions, and experiences of public participation reported by the water experts were both positive and negative. Participation in water management can be both a nuisance and a necessity for improved wellbeing. The fundamental question concerning whether it is appropriate to have some sort of public participation in IWRM, and whether PP is relevant in decision making elicited a common response. The relevance or appropriateness was seen to depend on a plethora of factors, all interlinked, making any analysis of similarities unintelligible. It is difficult to organise such

information around a simple and single narrative. However the scoping interviews revealed five dichotomous factors which condition the relevance of PP in IWRM. The reported analysis does not contain one individual's understanding and neither does it represent a consensus but is a compound representation structured by the authors. These five dichotomous factors help to structure the relevant ontology and the epistemology for further knowledge production: (i) the size and scale of the water related issue, (ii) responsibility over water resources and services management, (iii) the source of project funding, (iv) the extant culture of decision making processes and (v) the objectives and rationale for public participation. The initial interpretive framework (Figure 2) is constructed as a contrast between (i) the elicited strengths and positive aspects of PP in water related issues, and (ii) the identified weaknesses and negative aspects. The substantive nature of the five dichotomies observed via the scoping interviews and as used to define the analytical framework are reported below. The reporting style used to detail these five dichotomies assimilates the vocabulary, the expressions (presented in "double quotation marks") and the logical links used by the interviewees, not those imposed by the authors.

3.1 Size and scale of the water related issue at stake

The nature of water related issues and the size of the project is the first factor to condition the relevance of PP in IWRM. For big projects such as dam construction that are used for regional or national irrigation, energy production or as strategic reserve, public participation was considered to be a "messy" process where it is "unrealistic" to involve interested parties at the same scale as of the project. Competent Agencies (CAs) are not considered to have the capacity, interested parties might not be easily engaged, and this raises issues of the representativness and legitimacy of those who are involved. On the other hand, for local and small projects such as earth dam reservoirs, water distribution at village scale etc. . . , public participation is considered as a valuable tool to promote better decision making because it facilitates definition of the problem, and the identification of the solution jointly between CA and local stakeholders. Public participation is seen here as promoting sustainable water management through development of the technical, social and managerial skills of stakeholders that partly own the project. Locally, affected parties can easily organise themselves into water user associations or community based organisations and represent their common interest. PP is perceived to both require and enhance democratic local organisation.

3.2 Responsibility over water resources and services management

For state-strategic projects, where trade-offs between beneficiaries and the negatively affected parties are at the scale of the nation-state, the state and its representatives are considered the only legitimate authority to arbitrate decisions for the common good. Therefore, as mentioned by the interviewees, affected parties

Range of dichotomy

Strengths & positive perceived aspects of PP

Project acceptance & cooperation
better definition of problems & solutions
Increases trust, accountability, better decision.
Improves people's life
Develops technical social & managerial skills for both decision makers & all stakeholders.
Users involvement in project management, maintenance & monitoring, project ownership & shared responsibility over water rights & resource allocation, sustainable management.
Promote stakeholders' organisation (WUAs) & democratic society.
Dialogue facilitate data interpretation & consensus building
Hence
PP needs to be encouraged & facilitated, need to develop guidelines for both CA & all stakeholders

	Factors	
Big projects- dams- big cities	Size & Scale	Small- local (irrigation, water supply)
State region	Responsibility over water resources & services	Local – municipal
National	Origin of funds	Local, INGOs' Development Agencies
Decide Announce Defend	Culture of decision making process	Consensus & capacity building, social interaction
Give information	Objectives & Rationale for public participation	Understand stakeholders' needs & delegate responsibility

Weaknesses & negative perceived aspects of PP

Messy, unrealistic, Miss-use of loans,
Private interests prevail over common good
Placation, corruption, clientelism
Irrational & emotional approach
"fanatism" of professionals & NGO's
Lack of communication between CA's, dispersion of responsibilities.
Lack of experience & practices from CA & Stakeholders
Lack of education of affected parties & adverse to change
Hence
No need for participation for state strategic projects- the state knows what people wants hence current status quo is better

Figure 2: Interpretive framework for understanding the appropriateness of PP in IWRM

are not considered as stakeholders that need to be involved and consequently have no reason to raise their voices. In the case of small projects, participation is a way to delegate some responsibilities from the CAs to the local stakeholders as long as they are democratically and legally organised through water user associations for example. Otherwise this transfer of power becomes clientelism, placation, a source of corruption and of conflict. Additionally, experts emphasised individuals as key actors responsible at household level (but collectively at municipal and national level) for the poor usage of resources and services (demand management). Indeed, a lack of interest in water management and more generally a lack of consideration for the common good exacerbates both water quantity issues and water quality issues since poor waste management habits contribute to diffused contamination of surface and ground water.

3.3 Source of project funding

The third point observed through the scoping interviews is the origin of funds used for project financing and resourcing the participative activities. The cost of public participation is considered as a burden even though PP is acknowledged to often shorten both the decision making process and the project implementation period, and decrease maintenance costs. However, investors are typically taking a risk and changes to current investment practices are considered as adding to this risk. The approach to risk management naturally conditions the planning and decision making process. When the state finances a water related project (whether for a state-strategic or a local public-good asset), decisions are made according to a cost-benefit or similar metric and directed by political will, but never directly takes into account the needs of affected parties. It is assumed that "the state knows what people want" as the interviewees expressed it. The different layers of planning commissions and civil servants avoid the transaction cost associated with the development of new decision making processes based on a participative approach and the training of competent authorities. However, when the source of funding is external to the state (or part of it), donors commend stakeholders' engagement in the decision making process (ADB, 2003; EBDR, 1995; EIB, 2007; IISD, 2004; World Bank, 1993, 1996, 2003, 2004). The cultural barrier to decision making that is adverse to public participation is perceived to be potentially lifted when the project financer is willing to promote an integrative and participative approach.

3.4 The culture of decision making processes

All three case study countries have a strong top-down approach to planning. Decision making is centralised ("autocratic" as referred to by one interviewee) and engineering based. The subjectivity inherent in data interpretation and in the construction of a problem is still an alien concept (although some exceptions do exist). Inefficiency in planning is seen largely to be a function of poor communication between ministries and lack of integration of non-governmental stakeholders. Relevant CAs are perceived of as not having the capacity to handle

large scale and long term participative exercises. Additionally, a lack of appreciation of lay citizens, farmers and end-users (because they are stigmatised as poor, uneducated, with no technical knowledge, and no holistic view), lead most experts and civil servants to adopt a "we know everything hence we think instead of you" attitude as explicitly mentioned by several interviewees. Changes in decision-making culture through training and education to raise the public's environmental awareness and civil servants' awareness of integrated governance is being undertaken to some extent by international development agencies and NGOs' whose role is mainly to provide financial, technical and managerial support. They attempt to ensure regular horizontal liaison between ministries and authorities, and also vertical liaison with end users (farmers, villagers, small business, etc.) through participative rural appraisal and Environmental Impact Assessment. The recent set-up and involvement of water user associations is seen as a real move forwards in order to structure the end-users contribution because this type of organisation facilitates dissemination of information and channel-up grass-root opinions and concerns. When end-users are organised in associations or unions and become potential political partners, they decrease the "messiness" of society, promote transparency of local decision making and responsibility over asset management and operation.

3.5   Objectives of and rationale for public participation

The fifth factor to condition the relevance of PP in IWRM can be viewed as both a factor in its own right and, in one respect, a synthesis of the four previously described factors. From the evidence collected via the scoping interviews one can identify two opposite rationales (Figure 2) justifying the relevance to utilise (or not) PP in IWRM reflecting a top-down or a bottom-up approach. On the one hand, there are no perceived benefits in initiating public participation since the state knows what people want, funds are limited and PP might incur additional costs. From a top down approach, PP is considered "messy", "unrealistic" and a potential driver of social divides between scheme beneficiaries and losers. PP can become a "nuisance" as highlighted above and as reported elsewhere (Innes & Booher, 2004; White, 1996). Hence current decision making strategies of Decide Announce Defend (DAD) are protected and the rationale for no PP in water related challenges is considered to be better than change. On the other hand, as also pointed out by the interviewees, decisions impact all stakeholders and in the absence of a single omniscient and omnipotent stakeholder both dissent and inequitable interventions are likely. From a bottom-up approach, PP promotes project acceptance and cooperation from the stakeholders because they reciprocate trust and accountability which potentially leads to better problem identification and problem solving. Stakeholders' participation can take several forms ranging from involvement in environmental and social impact assessment up to the transfer of some responsibilities for management and maintenance of local assets. PP can foster a greater sense of responsibility and citizenship promoting democratic societies as argued by Laird (1993).

From these five factors which define an interpretive framework for under-

Table 1: Participants' opinion on whether the water resources are at risk and whether they are properly managed (number of responses)

Case study	WR at risk?		WR properly managed?	
	yes	no	yes	no
AZB, Jordan	11	0	3	7
Tartous Mohafaza, Syria	25	2	8	18
Gökova Bay, Turkey	11	3	7	9

standing the meaning of PP in IWRM (Figure 2) and which also condition the relevance of PP in IWRM observed during the scoping interviews, the second stage questionnaire distributed amongst workshop participants focused on three themes:

- Water management challenges and the causes for unsatisfactory management for both water resources and services (reported in Subsection 4.1).

- Reasons for organising and taking part in PP and preferred form of PP (reported in Subsection 4.2).

- Perceived benefits of PP and lessons learnt from participatory exercises and social learning (reported in Subsection 4.3).

4   Assessing stakeholders' understanding of PP in IWRM

We now move on to present the information elicited during workshops held in each case study area. The links between the interpretive framework built from the scoping interviews (see Figure 2) and the results of the questionnaires are synthesised in Figure 10, at the end of this section.

4.1   Grounded understandings of water management challenges

As presented in Table 1, in all case studies, the vast majority of participants considered that water resources (WR) are at risk in their area. Additionally two thirds of them consider that these resources are not being properly managed.

When specifically asked why they consider the water resource to be at risk, two sub categories of response were evident (see Figure 3):

- Risks about water quality are divided into general water resources pollution and issues linked to wastewater.

- Risks about water quantity are dived into over-pumping groundwater for irrigation purposes, and general concerns about sharing the resource.
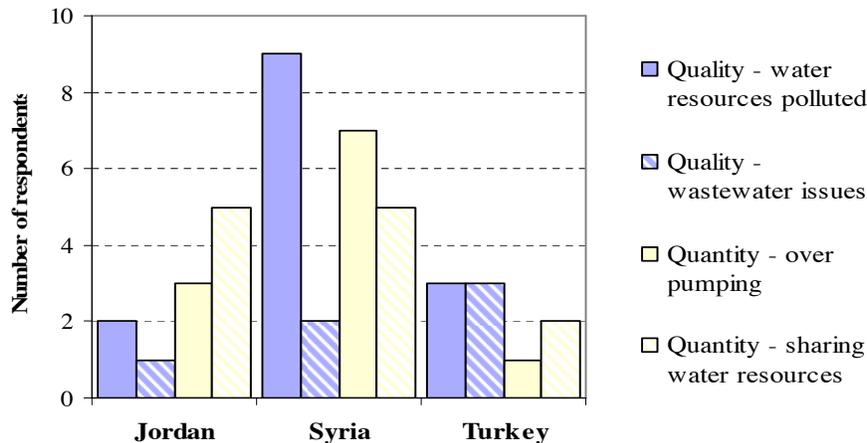
Figure 3: Main source of risks perceived for the water resource

In the Amman Zarqa basin the main source of risk concerns quantitative issues. Jordan is indeed amongst the poorest countries in the world in terms of water availability per person per year (179m^3/cap/year) (Haddadin, 2006; UNESCO, 2006). This is not to say that water quality is not of concern—it is— but the most pressing issue is one of quantity. In Tartous Mohafaza participants are equally concerned with water quality and water quantity issues. If properly managed the Mohafaza would be water rich, but water shortages are routine, and quality continues to deteriorate. The participants in Gökova Bay are more concerned with quality issues, especially focusing on the impact of pollution sources (landfill, wastewater) polluting both ground and surface water.

When asked about the reasons why they thought water was poorly managed respondents in the Amman Zarqa Basin described four interlinked reasons. First, from a technical and operational perspective the network is poorly managed. On top of the high leakage rate, the water supply network is also subject to vandalism. Second, the resource is subject to pollution and aquifers tend to deplete due to over-pumping. Third, the management is perceived as not being able to adequately respond to increases in demand following demographic growth and lack of clear planning and policy. Finally, poor management is linked to a lack of consideration toward the public good. Individual interests are seen to prevail the over public interest. This applies at individual domestic level with over consumption, general waste of water or unaccounted for water, and at an institutional level with questions about the capability of competent authorities to ensure water resources and services management meet the needs of all stakeholders.

In the Mohafaza of Tartous, water resources are not considered to be properly managed for a slightly different set of reasons. First, the waste of water due to the poor condition and maintenance of the distribution network is a cause of

major losses. This technical issue is accentuated by the individual usage of water (behavioural dimension) that is considered to be wasteful. Second, respondents emphasized the fact that current public services cannot cope with the growing population's expectations of water services. Third, the lack of close cooperation between competent authorities to develop a clear water policy is viewed as a cause of poor water management. Finally, the issue of illegal wells illustrates that individual behaviour, is once again considered as a cause of poor water management. The current lack of resources to implement the regulations and laws is not able to stop illegal water abstractions.

In the Gökova Bay, respondents identified a third set of reasons why water resources are not being properly managed. As in Syria, respondents identified, the waste of water due to the poor condition and maintenance of the distribution network and wastage due to inefficient usage of water by individuals. Thirdly is mentioned the lack of planning and clear water policy and finally, the legal and administrative institutions are not considered as fit for purpose.

To close this grounded understanding of water related challenges, the stakeholders were asked if they thought that participative planning was able improve water resource management in their area. Only one participant out of the three workshops gave no answer (in Turkey), all other participants responded positively that participative planning can indeed improve water resource management in their area. Such results provide favourable ground to investigate the understandings of public participation in IWRM.

4.2 Grounded understandings of public participation in IWRM

In order to elicit the understood meanings of, and rationale for, public participation in IWRM from a range of stakeholders, we asked questions on three sub-themes during a series of workshops: (i) the reasons for participating in PP, (ii) the reasons for organising a participative exercise, and (iii) the preferred type of PP using Arnstein's ladder of citizen participation (Arnstein, 1969), as a model.

4.2.1 Why participate in the decision making process?

Responses to the query about reasons for participating in a PP activity were coded through six categories (Figure 4—IRC = 3/45):

- To receive information about future plans the public authority will implement

- To give my opinion to the public authority, about future plans

- To exchange my views with other citizens, and people working in agriculture, tourism and industry and to propose a common solution to the public authority

- To avoid or to resolve conflict over the use of water
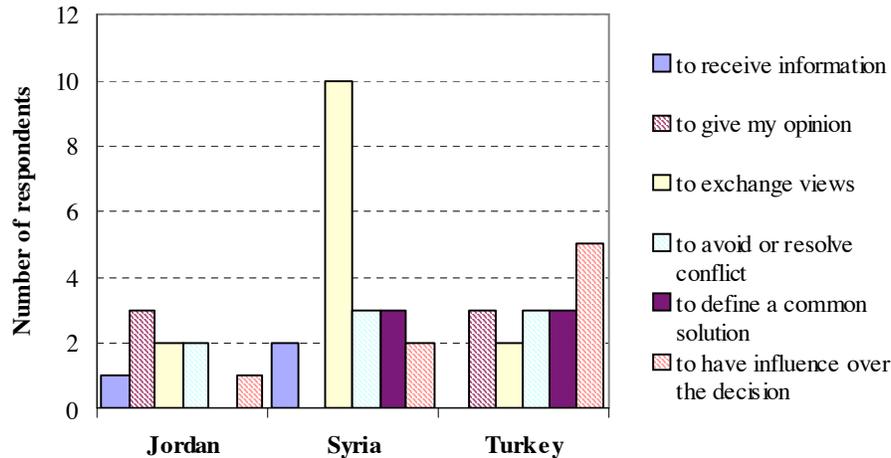
Figure 4: Participant's opinions on the reasons for taking part in a participative workshop.

- To define a common solution with all citizens and sectors that will be implemented democratically

- To have influence over the decision

When asking the participants their most important reasons for participating the results are different from case to case (Figure 4). In Jordan, the main reasons given were to give my opinion, to exchanges views and to avoid or resolve conflict. The least mentioned motivations are to receive information and to have influence over the decision. No respondents saw define a common solution as a reason for taking part. Participation appears to be understood here as a platform to express opinions. In the Syrian case study the desire to exchange views is clearly dominant whilst to give my opinion is not mentioned. This result may reflect the way participants favour discussion and exchange over technical monologues. Participation appears to be understood here as a platform for dialogue. In the Turkish case study there is an emphasis on the ability to have influence over the decision whilst to receive some information is not mentioned by any of the participants. Participation here appears to be understood as a platform to empower opinion forming.

4.2.2   Why organise a participative workshop?

When queried about the reasons for organising a participative workshop four categories of responses were provided (Figure 5, ICR = 5/50):

- To gather opinions

- To communication exchange opinions
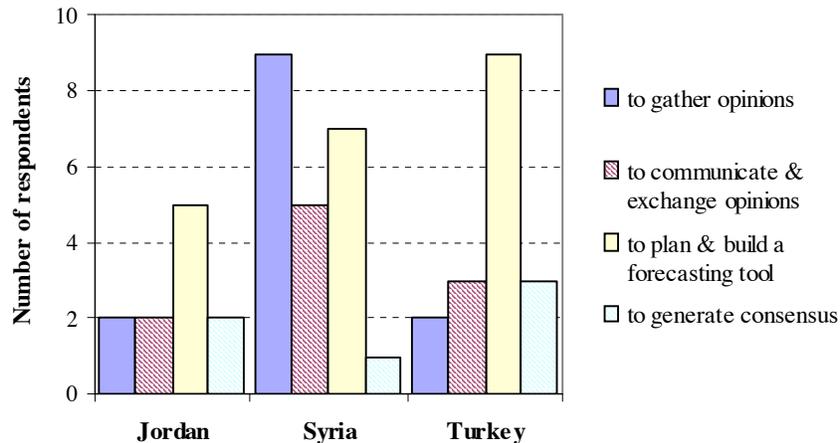
Figure 5: Participants' opinion on the reasons for organising a participative work-shop.

- To plan & build a forecasting tool

- To generate consensus

Interestingly, the participants in the Jordanian and the Turkish workshops provide a similar pattern of answers with the main reasons for organising public participation being to plan and build a forecasting tool. In the Syrian case study the main reason for organising a participative workshop was to gather opinions.

4.2.3 Preferred type of public participation

The participants of the workshops were also asked to rank eight descriptions of different levels of public participation according to their preference. The eight descriptions of participation were taken from Sherry Arnstein's seminal work (1969) and are presented in Table 2. The presentation of the average scores (Figure 6) is counter intuitive because the most preferred definition has the lowest score, while the least preferred definition attracts the highest score. Respondent preferences were average for each case study.

Arnstein's ladder of citizen participation is built on increasing level of citizen power over a decision making process, and it illustrates the balance of responsibilities between the competent agency and stakeholders. A graphical representation of the elicited preferences forms an inverted U shape curve (Figure 6). Overall, the preferred forms of PP are consultation, informing and partnership. Both extremes of the ladder of participation are rejected (low rank). Therapy, manipulation, placation and citizen power are rejected as desirable forms of PP. Consultation is consistently the preferred type followed by partnership or informing. The only exception to the overall trend, Placation, ranks low (6th, 7th,

Table 2: Definition of the eight rungs of citizen participation adapted from Arnstein

Level of participation		Description of the form of public participation
Non Participation	1- Therapy	A Public relation exercise organised by authority to gain people support
	2- Manipulation	A meeting where people express and share their problem, but there is no intention from the organiser of solving them
Tokenism	3- Informing	Giving to the citizen information about a project that has been done or that will be done.
	4- Consultation	Gathering information and opinion of the citizen on a project or a problem that concern them: make a survey about their reactions/opinion.
	5-Placation	Citizens are allowed to advise and to propose solution to local authority, but no power to implement it
Citizen Power	6-Partnership	Citizens and power holder agree to share planning and decision-making responsibilities through structures like joint policy board, planning committees. . .
	7- Delegated power	Negotiation between citizen and public officials can also result in citizen having a dominant decision-making authority over a specific plan or programme
	8-Citizen control	Citizens have a degree of power and control which guarantees that participants or residents can govern a program or an institution (school, natural park, transport), and they are in full charge of policy and managerial aspect.
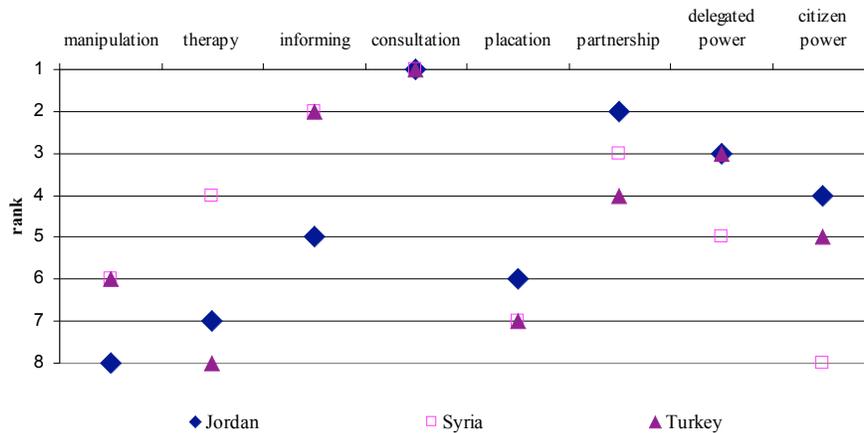
Figure 6: Elicited preferences for forms of public participation according to Arnstein's ladder of citizen empowerment

7th). However, we would note that the description used for placation finishes with the mention "but no power to implement it" and this direct mention of the lack of power when presenting solutions to a CA is known to have caused the lack of attraction for this description of PP as pointed out by post-questionnaire discussions.

For the Jordanian respondents, their preference levels for partnership and delegated power are ranked 2nd and 3rd. This indicates that the stakeholders favour a high degree of citizen empowerment, while informative participation (ranked 5th) is rejected. For the Syrian respondents, the preferred forms of PP encompass consultation, informing and partnership which illustrate the wide range of expectations they have. For the Turkish respondents, the preferred forms of PP include consultation, information and delegated power. This has to be compared with the information elicited above highlighting that to have power over decision making is the major reason for taking part for those involved in the Gökova Bay case study.

Having reported how stakeholders understand PP and on their preferred form, we now focus on the social learning aspect of participation.

4.3 Comments on experiences of the participative workshop

This final set of results focuses on the stakeholders' perceived benefits in a participative workshop, and is articulated around three themes:

- Aspect of the workshop participants liked the most (ICR = 0/51, Figure 7)

- Participants learning points (ICR = 4/ 51, Figure 8)

IAJ
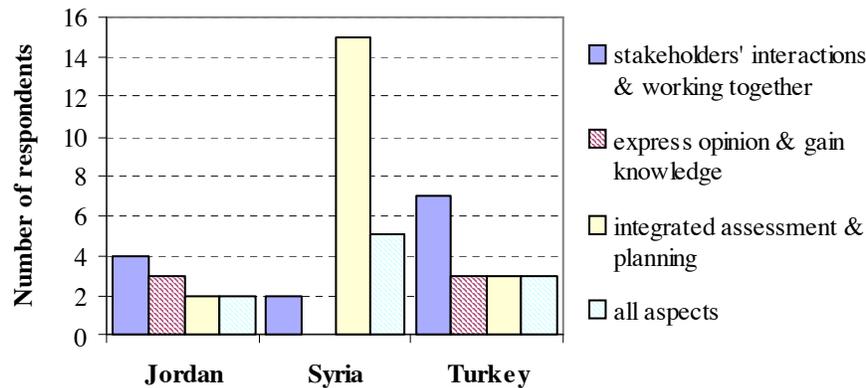
Figure 7: Aspect of the workshop which participants liked most

- What participants found interesting in the workshop (IRC = 2/38, Figure 9)

Jordanian and Turkish workshops valued above all working together and the interactive discussions they had whereas the participants in the Syrian case study area appreciated the integrated assessment aspect of exploring IWRM issues and the participative planning exercise as a whole (Figure 7).

When asking the stakeholders what they learnt from the workshops (Figure 8), the answers vary significantly from case to case. In the Jordan case study, most delegates identified the planning and scenarios building aspect suggesting an output driven perspective. In the Syrian case study stakeholders emphasised both the aspect of working together and of planning. This stress on the production of output is linked to the workshop provided a collective learning environment. Finally, the Turkish stakeholders learnt about working together and about other stakeholders' concerns.

The final theme focuses on stakeholders' interest in the workshop and is distinguished from the theme relating to which aspects attendees liked most (although they are complementary) because it aimed at eliciting an overall impression (good or bad) of the value of the workshop, and not a specific aspect. Throughout the three case studies, the innovative and interactive nature of the PP approach aroused great interest (Figure 9). The interest for local issues is only mentioned in the Amman Zarqa Basin study and in the Gökova Bay workshop and not in the Syrian one, probably because the workshop in Syria was held in Damascus, not in Tartous for logistical reasons, and interest in the local aspect was less salient, unlike for the other workshops.

These trends suggest that stakeholders are output driven but apply different social constructs to reach the same objective: to plan for better water resources management. The Jordanian stakeholders focused on product based or technical
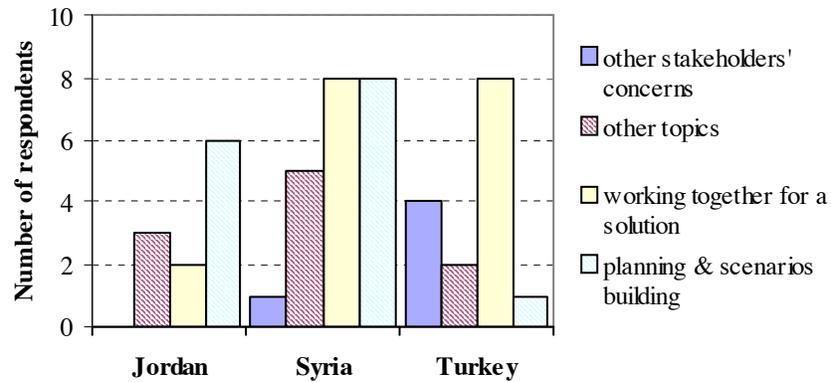
Figure 8: Stakeholders' learning points
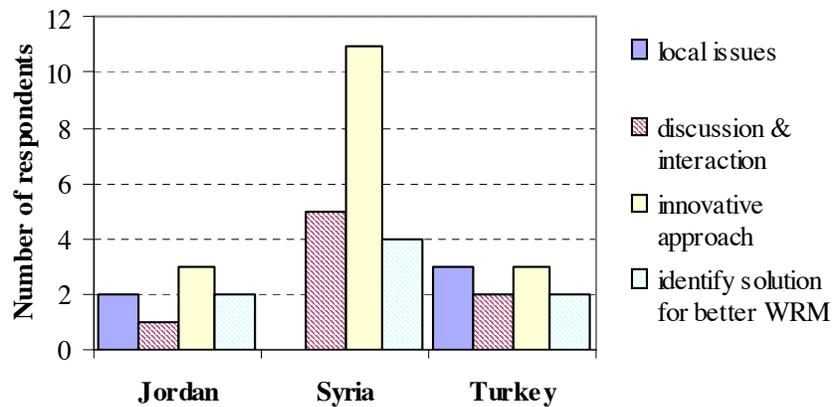
Figure 9: Stakeholders' interest in a participative workshop

knowledge, seeing participation as a platform to express their opinion on technical knowledge. The information elicited via the Syrian workshop highlights the need for team work beside the need for technical knowledge, where participation is seen as a platform for dialogue. The Turkish workshop highlights that working together requires learning from each other and about others. Here, social knowledge is presented as more important than technical, and participation is seen as a platform to empower opinion forming through social learning. The core information elicited through the stakeholder workshop is summarised in Table 3 where the meaning of PP in each of the case studies is illustrated via the themes elicited through the questionnaires.

Figure 10 illustrates the thematic links between (i) the interpretive framework elicited during the scoping interviews, (ii) the themes used to structure the questionnaire survey, and (iii) and the categories emerging from responses to the questionnaire. From the five factors (Figure 2) which condition the relevance of PP in IWRM observed during the scoping interviews, the second stage questionnaire distributed amongst workshop participants focused on three themes: water management challenges, the meaning of PP, and the perceived benefits and learning outcomes of a participative workshop.

5 Discussion

5.1 Complex it is, complex it remains!

This exploratory grounded study has highlighted the difficulties encountered in identifying and characterising the relevance and appropriateness of forms of PP used in IWRM due to the diversity of roles which PP can play and the diversity of issues which it can be applied to. The results from the scoping interviews and from the questionnaires illustrate both the plurality of definitions of what is at stake (irrigation, domestic water usage, infrastructure planning, quality), and the range of dimensions which characterise the challenges (technical, managerial, financial, environmental, and social). There is hence no "grand narrative" or single narrative for such a complex problem as pointed out by De Marchi & Ravetz (1999) and Funtowicz & Ravetz (1993). Responsibilities are fragmentated over geographical, institutional and vested interest but the construction of shared understanding of what is at stake requires dialogue and participation (Conklin, 2005). At one extreme, respondents indicate that large projects of national (or regional) interests are seen to not require PP or consultation, information is provided once a decision has been made; in these cases, PP is considered as messy and unrealistic and might engender more problems than it solves by smoothing the decision making process. All interviewed experts mentioned that for state-strategic water related issues, the current status quo is preferable to public engagement in decision-making. At the other end of the spectrum, for small projects, typically for local irrigation schemes and water supply projects, consultation is considered as necessary, typically during an EIA. Here, PP is perceived as a tool to promote better decisions, promote

Table 3: Synthesis of the core information elicited through the workshop's questionnaire

Themes elicited	Case study river basins		
	AZB, Jordan	Tartous Mohafaza, Syria	Gökova Bay, Turkey
Preferred forms of public participation / Delegated power	Consultation, partnership, delegated power	Consultation, partnership	Consultation, information, partnership
Reasons for taking part	To give my opinion	To exchange views	To have influence over the decision
Reasons for organising	To plan & build a forecasting tool	To gather opinions	To plan & build a forecasting tool
Aspect of the workshop which participants like most	Stakeholders interaction & working together	Integrated assessment & planning	Stakeholders' interactions & working together
Stakeholders' learning outcomes	Planning & scenarios building	Working together for a solution & planning & scenarios building	Working together for a solution & other stakeholders concerns
Stakeholder's interest	Innovative approach, local issues	Innovative approach	Innovative approach, local issues
PP in IWRM is perceived as a:	Platform to express their opinion on technical knowledge	Platform for dialogue	Platform to empower opinion forming through social learning

Figure 10: Thematic links between interpretive framework elicited during the scoping interviews and the stakeholders questionnaires for understanding the appropriateness of PP in IWRM

project acceptance, achieve sustainable and inclusive scheme management, and develop technical, social and managerial skills amongst both the affected parties and the competent agencies.

Coarse and simple dichotomies between small/big projects, consensus building versus autocratic decisions is not sufficient to understand the role of PP in IWRM and a fortiori to assess which type of participation would be suitable for what type of water management challenges. The interpretive framework presented in Section 3 confirms that the meaning of PP is context dependent and illustrates that in the age of "post normal science" the definition of the problem is a problem (Funtowicz & Ravetz, 1993; De Marchi & Ravetz, 1999; Rittle & Webber, 1973).

Our approach has been to explore the variety of causes for unsatisfactory water management, through direct elicitation. The identification of the five characteristics factor which frame an understanding of PP in IWRM led to an analysis of three types of issues via the stakeholders' questionnaire as illustrated in Figure 10:

- Water management challenges and the causes for unsatisfactory management for both water resources and services

- Reasons for organising and taking part in PP and preferred type of PP

- Perceived benefits of PP and lessons learnt from participatory exercises and social learning

5.2 Water management challenges

One can appreciate that the human and natural environment impact on the concerns of stakeholders and inform a hierarchy of problems / challenges. Where both water quantity and quality are poor, the main concern becomes one of quantity (e.g. AZB, Jordan), whilst where water is available in sufficient quantity because of its natural presence and because man-made infrastructures deliver the services, the main concern becomes water quality (e.g. Gökova Bay, Turkey). Stakeholders from all three case study areas provide a generally consistent explanation for poor water management:

- Technical issues: lack of asset management

- Managerial & planning issues: lack of strategic planning for the future and of clear policy, including pollution as the consequence of poor management

- Governance issues: poor communication between competent authorities which is viewed as a political issue

- Behavioural issues: low individual interest in the common good, irresponsible and illegal behaviours

The information elicited from both the experts and stakeholders corroborates evidence about three levels of scarcity as presented in a recent MENA

report (World Bank, 2007, p. 24.): "scarcity of accountability" (governance issues), "scarcity of organisational capacity" (managerial and planning issues) and "scarcity of physical resources" (technical issues). Additional to these levels of scarcity, the information collected in this study highlights the roles and responsibilities of individuals in poor water management (e.g., lack of interest in the common good, irresponsible and illegal water usage). Paraphrasing the MENA development report, one could name this additional dimension to poor water management as behavioural scarcity. Significantly, the above mentioned World Bank report does not include individuals as actors, despite an ephemeral mention of the need to educate people. Individuals per se are not considered as either a cause of the problem or as a source of solutions (it might seem just as politically incorrect to blame individuals for their behaviour as it is to blame them for the quality of their politicians). Having clarified the causes of unsatisfactory management we now question, as Bruna De Marchi (2003) does, participation for what?

5.3   Some grounded insight towards the meaning of PP in IWRM

Overall those stakeholders involved in the three workshops rejected both extreme ends of Arnstein's ladder of citizen empowerment (Arnstein, 1969). The preferred forms of public participation were consultation, informing and partnership. It has first to be noticed that there is no significant difference in terms of preferred form of PP across the three case studies despite significant variance in existing governance regimes. However, in order to obtain a richer picture of the meaning of participation for local stakeholders', their preferred forms of PP have to be understood in the light of the elicited motivations for, expectations of, and interests in, participation.

In the Amman-Zarqa basin case study, the preferred forms of PP were consultation, partnership and delegated power. This denotes that PP is perceived of as a means by which actors can actively contribute to the decision making process. Although the stakeholders mentioned that they enjoyed working together and the interactive discussions, they were primarily output product focused (planning and scenario building) and that was also reported as the main reason for organising a participative workshop. However, learning of other stakeholders' concerns was not mentioned as part of the realised outcomes. When this conception of PP is related to the environmental context where both quantity and quality of water are threatened and where there is urgency to accommodate the needs of different users, participation is perceived of as a platform to express opinions on technical solutions with little consideration for the role of stakeholders' interactions on planning (lack of social learning emphasis).

The case of Gökova Bay presents several similarities with the Jordan case study. The preferred forms of PP are consultation, delegated power and informing. However this denotes a wider expectation towards the function of PP, from receiving information to active involvement in the decision making process. The most frequently mentioned reason to participate was observed to be to have

influence over the decision and this confirms the high expectation towards an active stakeholders' role. The Gökova Bay stakeholders were also output-driven, since the main reason for organising a participative workshop was for planning purposes. Despite these similarities, the participants in Gökova Bay strongly emphasise the human and interactive dimensions of participation; they liked stakeholders' interaction, working together and they learnt about other stakeholders' concerns. In this case study area, there is not an immediate threat in terms of water quality and quantity. An immediate technical solution is not required, although stakeholder's still have high expectations in terms of water management improvement. In this context, PP is seen as a platform to empower opinion forming through social interactions where the identification of a solution requires working together and understanding other stakeholders' arguments.

The understanding of PP by the respondents from Syria denotes a less active role for stakeholders in participative activities than in the two previously reported cases. Although their preferred forms of participation involve consultation, informing and partnership, the main reason for participating is to express one's opinion, and this echoes the main stated reason for organising PP events: to gather opinion. Consensus building is noticeably absent from this sample. Participation here is a platform for dialogue and the benefit of PP is to learn to work together rather that to reach a consensus and to empower it.

These findings support Carole Pateman's (1970) views that participation gets better by participating and embellish previous work on the educative role participative activities have in democratising society (Fiorino, 1990; Kähkönen, 1999; Pahl-Wostl, 2002). As highlighted already in Western liberal democratic countries (Laird, 1993; Dryzek, 2000; Pahl-Wostl et al., 2007; Webler, 1999), social learning is crucial for meaningful participation and contributes in itself to democratising the public sphere. As water is both a state strategic commodity and a public good, democratising ambitions challenge the functioning of governing institutions and their capacities to adapt to far ranging conflicting influences and needs.

5.4 Water scarcity, public participation, good governance and human development

Hall et al. (2007) emphasise that participative initiatives and democracy should be judged by the extent to which they strengthen the public sphere. One might challenge that if the institutions which constitute a governance regime are unwilling to open the public sphere to discursive and participative democracy, then participative initiatives might not flourish. As reported by Giammusso (1999) the public sphere in MENA countries remains over-supervised with governments seeking to monitor and authorise each and every business and civil society decision. Moreover, cumbersome bureaucracy acts as a filter and bottle neck to channel and direct foreign aid initially intended to promote civil society initiatives. The relations between governance, public participation and human development especially in the context of water and sanitation management has generated good illustrative reports (UNDP, 1993, 2000, 2002, 2006)

but is not yet producing meaningful outcomes to improve human wellbeing. Notwithstanding the difficulty of defining and measuring governance, the World Bank Institute (2007) produces a range of indicators that allows comparison of countries according to six dimensions of governance: "voice and account- ability", "political stability and absence of violence/terrorism", "government effectiveness", "regulatory quality", "rule of law" and "control of corruption" (World Bank Institute, 2007). When evaluated with these metrics, Jordan and Turkey present similar characteristics while Syria ranks much lower for all in- dicators. The information in our study corroborates the relative openness of the Jordanian and Turkish governance environment while in Syria there seems to be a discrepancy between citizens' readiness to participate and the gover- nance style that still inhibits relevant opportunities. Indeed, our experience has been that representatives of CA's and stakeholders are keen to meet and willing to experience innovative participatory integrative methodologies despite their unfamiliarity with this new approach.

These insights support the view that interactions among stakeholders are an essential component of social learning and problem identification. Moster et al. (2007) present similar evidence based on European case studies where governance style and opportunities for participative opportunities are seem- ingly incompatible. We have found that, even where criteria characterising a democratic society are not all entirely satisfied, there is a case for promoting participation of the public in water management. However, we would note that the ongoing debate (see, e.g., Robert, 1995) over whether a democratic society is needed to promote citizen participation or vice versa might be misplaced be- cause public participation and democracy are means for inclusive governance and ends in themselves.

6   Conclusions

We have learnt through this study that simply asking stakeholders which form of PP they prefer is not sufficient to gain a rich picture of their understandings. The investigation of the reasons for taking part in PP and awareness of the benefits, learning and interest taken from PP experiences enrich the construc- tion of meaning (definition and implication). We have also seen how Arnstein's ladder of citizen empowerment might be adapted so that its use can be usefully extended beyond its original application domain of neighbourhood and com- munity based projects to address state strategic and environmental resources management. Such a revised ladder of public participation for IWRM needs to be refocused on the flow of communication as well as on the expected output of participation. Public participation needs to be further investigated to take into consideration the modalities for communication whether it involves information provision, gathering information, or reciprocal exchange of opinions for both problem identification and solution formulation. This new tool would need to be tested on the diversity of water related challenge taking into consideration their complex nature in order to tune the objective of participation with the

nature of what is at stake. Although there was no significant differences in the preferred form of PP between the three case studies, the analysis of reasons for taking part and the learning outcomes from a participative workshop, highlights three attitudes toward PP in IWRM; as a platform for dialogue in Syria, as a platform to exchange technical viewpoints in Jordan, and as a platform to empower stakeholders' opinion forming through social learning in Turkey (with an increasing role for social learning and democratic values).

The findings reported above highlight that the motivation for exchanging information and opinions are of prime importance for the meaningful participation of stakeholders and that power is more about being consulted or having a say in decisions than about making decisions. The purpose of participation is viewed not as a way of eliminating conflict but rather as a mean to clarify what conflict is really about (De Marchi, 2003, as suggested by). The meanings of public participation for stakeholders has revealed the importance of dialogue and social interactions as means to produce or to contribute to producing better decisions through better communication. Moreover, the results provide unequivocal support for the appropriateness of PP in IWRM because, as illustrated here, to address water resources management is to address the interconnections between open complex systems that are socially and economically anchored with technical and environmental challenges managed by local, national and international institutions. Although significant challenges remain in creating and maintaining the spaces where citizens present and debate their opinion on public good management (De Marchi, 2003)

Our evidence supports the views that integration is achieved by public participation rather than via bureaucratic hierarchies of CAs and that lack of communication internally and externally is a major cause of water management inefficiency (as also reported by Pahl-Wostl et al., 2007; Moster et al., 2007). In order to redress this lack of integration between technical, environmental and social aspects, the information elicited corroborates suggestions made by Tàbara & Pahl-Wostl (2007) that a change in decision-making culture is necessary through training and education to raise the public's environmental awareness and civil servants' awareness of integrated governance. The final word is left to a stakeholder from one of the workshops: "it was very interesting to see that people from different professions, different institutions and different stakeholders (farmers, tourism sector, local administration, NGOs) were all working together [. . .] and that a consensus can be established even between the most opposite views/ideas and that it is possible to gather information" (Akyaka, Turkey 5th May 2005)

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