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## Collective Action-A Challenge and an Opportunity for Water Governance

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***Collective Action – a Challenge and an Opportunity for Water  
Governance***

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## ABSTRACT

### **Collective Action – a Challenge and an Opportunity for Water Governance**

This paper addresses the motivations that drive participation in groups concerning water protection and provides a review of the key role collective action plays in accessing and managing water resources. It also analyzes the conditions and factors which make such organizations effective in solving shared problems and in facilitating and institutionalizing negotiation platforms.

Collective action heavily relies on the social capital existing in a community to accomplish goals and objectives. These social networks allow for flow of information, serving not only to criticize but also to purpose a different course in environmental and particularly, water management.

The vital role of collective action and other "major groups" in sustainable development was recognized in Chapter 27[2] of Agenda 21, leading to revised arrangements for consultative relationship between the United Nations and non-governmental organizations which are, indeed, collective voluntary action.

The coalition building capacity suggesting the mobilization of civil society in the sense of organized interests can supplement the ultimate responsibility of the traditional democratic institutions according to the implementation of the Aarhus Principles.

Modern governance calls for consensus, seeking processes with organized interests, a good culture of consultation and participation. Collective action meets these goals, as offers the chances for environmental effectiveness, contributing to information generation and creation of relevant knowledge. These factors may relieve the legislator, affecting the way in which powers are exercised at European level, particularly as regards the five principles of good governance, namely openness, participation, accountability, effectiveness and coherence.

Most problems with water resource management are felt at the lowest levels and changes in water management are required down to the individual action, reasons why the development strategies call for extensive pro-active participation (at different levels, sectors and scales) upholding the principles of subsidiarity.

Finally, this paper also highlights the role performed by collective action in increasing advocacy skills and capacity, contributing to strengthening governance at the local level through favoring the enabling environment for water protection and conservation.

Keywords: water management and governance, collective action, capacity building

## **Collective Action – a Challenge and an Opportunity for Water Governance**

### **Introduction**

Ever since humans interact with environment in a world of change, but by the beginning of the 1950s the fear rose that physical limits, due to severe natural resources shortages, could some day be reached. Environmental problems have become increasingly apparent and attained a global significance; changes turn more rapid and all-pervading than before.

The increasing scarcity, population growth, ozone depletion, global warming, the threaten of water and air pollution leading to increased quality problems, toxic waste disposal, tropical forestation will create difficulties for the continuance of these days pattern of life whose quality is judged by the quantity of goods produced and whose value is thought to be increased by the dissipation of our patrimony of natural resources, which can destroy our aspirations for a more equitable and humane society.

These problems need a coordinated and effective human response that is slow to rise and demand that humanity live ecologically and some economic and organizational problems be considered, in particular: how must be changed the path growth? What would be the economic characteristics of an environmentally sustainable system? What institutional changes would have that system? Would it permit improvements in the pattern of life?

Scarce resources can be economized by the effective use of the price mechanism but there is certain resistance to sharp increases in prices, which are seen as threatening accepted standards. Furthermore, where resources and the industries using them are privately owned, increased prices limiting their use are unlikely to be imposed with agreement or voluntary. However, for the majority of those

problems, if the community could be convinced that effective control was essential, the task is realizable. Generally, controls which are exercised through price mechanisms have a better record of effectiveness (Verbruggen, 1994; Kolstad, 2000; COM, 2000) but collective action may contribute decisively for helping governments to design policies for sustainable management and utilization of natural resources for the present and future generations, mainly concerning water resources management.

Research on collective action theme is quite varied and reaches different subjects. To refer only few ones, Western and Wright (1994) stresses that empirical evidence shows that community resource management can increase efficacy, legitimacy and sustainability of natural resources management. But as Zantel and Knuth (2004) point out, there is still relatively little empirical work that has analyzed the factors that determine participation in community resource management. Myatt and Wallace (2005) have a mathematical research concerning the conditions for the success of a collective action and Cabugueira (2003) analyzes voluntary approaches as collective actions, while Sandler(1992) formalizes and summarizes Olson(1971) theoretical development and Carraro and Lévêque (1999) investigate voluntary agreements in environmental policy.

Most related works have analyzed collective action for management of common resources such as community forests (Poteet and Ostrom, 2003 and 2004; Agrawal, A., Yadama, 1997; Gebremedhin, et al., 2003) or analyze the determinants of enactment of bylaws at the community level and compliance with these bylaws (Nkonya, E. et all, 2005). Knox and Meinzen -Dick (2001) analyze factors that contribute to effective devolving rights to resources to local users and how property rights and collective action institutions can shape devolution outcomes.

Community based management of natural resources and other forms of collective action have become an increasingly acceptable approach for environmental management.

The approach of this paper stresses the vital role of collective action and other "major groups" in water resources conservation and sustainable development. Its role was recognized in Chapter 27[2] of Agenda 21, leading to revised

arrangements for consultative relationship between the United Nations and non-governmental organizations which are, indeed, collective voluntary action.

This paper addresses the motivations that drive participation in groups concerning water protection and provides a review of the key role collective action plays in accessing and managing water resources. It also analyzes the conditions and factors which make such organizations effective in solving shared problems and in facilitating and institutionalizing negotiation platforms.

The coalition building capacity suggesting the mobilization of civil society in the sense of organized interests can supplement the ultimate responsibility of the traditional democratic institutions according to the implementation of the Aarhus Convention<sup>1</sup> Principles.

Collective action heavily relies on the social capital existing in a community to accomplish goals and objectives. These social networks allow for flow of information, serving not only to criticize but also to purpose a different course in environmental and particularly, water management.

Modern governance calls for consensus, seeking processes with organized interests, a good culture of consultation and participation. Collective action meets these goals, as offers the chances for environmental effectiveness, contributing to information generation and creation of relevant knowledge.

Most problems with water resource management are felt at the lowest levels and changes in water management are required down to the individual action, reasons why the development strategies call for extensive pro-active participation (at different levels, sectors and scales) upholding the principles of subsidiarity.

The first section briefly reviews collective action theory and conceptual framework. Next, some notes about the subsidiarity principle and the Aarhus

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<sup>1</sup> The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters adopted on 25<sup>th</sup> June 1998 in Aarhus, Denmark, at the Fourth Ministerial Conference in the “Environment for Europe” process.

Convention which consubstantiate the role of collective action to water governance, which is analyse in third section.

Finally, this paper also highlights the role performed by collective action in increasing advocacy skills and capacity, contributing to strengthening governance at the local level through favoring the enabling environment for water protection and conservation.

### **1- Water policy, the subsidiarity principle and the Aarhus Convention**

The subsidiarity principle entered into the constitutional order of the European Union through the Maastricht Treaty, but its foundation may be attributed to the social Encyclical Letter *Quadregesimo Anno* of Pope Pius XI in 1931 translated in Emiliou (1992): "... Just as it is wrong to withdraw from individual and commit to a group what private enterprise and industry can accomplish, so too it is a injustice, a grace of evil and a disturbance of the right order, for a larger and a higher association to arrogate to itself functions which can be performed efficiently by smaller and lower societies. This is a fundamental principle of social philosophy, unshaken and unchangeable. Of its very nature the true aim of all social activity should be help members of a social body, but never to destroy or absorb them."

The catholic social teaching of Encyclical Letter is applicable to the organization of a state, a society, a municipality, a community or a family, which seems a concept much broader than that of Article 3b of the Treaty amended on 7<sup>th</sup> February 1992, addressed to the division of role and competences between the European Union and its Member States. As Millon- Delsol (1993), we believe that the subsidiarity principle has its clearest meaning in federal organizations. It provided the foundation for municipal autonomy but there are some provisions on subsidiarity in water policy in most of the Treaty Articles, either by indicating the respective roles, allocation of competences of the European Union and its Member States, by defining to what an extent other policies have a subsidiary function aiming the promotion of water policy objectives, by allowing for different degrees of harmonization and scope for action at national level. But, subsidiarity, although

legally established with the Maastricht Treaty, was indeed explicit in environmental policy since 1973, as the principle of the “appropriate level” listed in the First Environmental Action Programme: “In each category of pollution, it is necessary to establish the level of action (local, regional, national, community, international) best suited to the type of pollution and to the geographical zone to be protected”. The Programme combined the principle of subsidiarity with the wider concept of shared responsibility, which involves a mixing of actors and instruments at the appropriate levels, and is not restricted to the interface between the European Union and the Member States; rather, sectoral level, enterprises, the general public and consumers are explicitly mentioned.

So, the subsidiarity principle was established not only as a formal allocation of competences but as a functional guideline to increase the effectiveness of environmental policy measures; and it could be seen in a broader sense, not only as a federal interpretation, namely to find a protected lack of restrictions of action for local and regional authorities according to Jacques Delors<sup>2</sup>, but as the better way of achieving environmental policy success: the cooperation of all actors concerned.

The five central principles of environmental policies are stated in the Treaty establishing the European Community as amended on 7<sup>th</sup> February 1992: “Community policy on the environment shall be based on the *precautionary* principle and on the principles that *preventive* action should be taken, that environmental damage should as a priority be *rectified at source* and that the *polluter should pay*. Environmental protection requirements must be *integrated* into the definition and implementation of other Community policies”...

The integration principle also applies to the protection of public health:”...Health protection requirements shall form a constituent part of the Community’s other policies.”

European Environmental Policy shall take into account the diversity of situations of the various regions of the Union according to the Treaty and this does not collide with the emergence of collective action providing a public good that is its

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<sup>2</sup> In accordance with Elliott (1994 )



vital role in changing attitudes and cultures, helping to pick and spread the necessary knowledge for water protection and conservation.

Water management has a multi-layered nature and not only the State but also many other non-state environmental managers can be identified, as environmental non-governmental organizations, transnational corporations, international financial institutions, local-level environmental managers as municipalities, at different levels of environmental interaction, being often different in terms of their motivations, interests or impact.

The main objective of EU concerning water policies is well established in COM, (2000) where it is clear that the development of water pricing policies enhancing the sustainability of water resources is crucial. The idea is that the full recovery of financial costs and the integration of environmental concerns are the favorite way to use efficiently water, as pricing policies contribute to meeting the environmental objectives in a cost effective way.

European Water Framework Directive<sup>3</sup> (WFD) includes for the first time and in an explicit way, economic concepts in water management and although being very flexible about specific methodologies of implementation in each member state, it gives a special importance to the economic analysis of the water sector. So, although each Member State could adapt the principles concerning this matter to their own law, they had to try to comply with the precautionary principle, the polluter pays principle and the corrective principle of environmental damage at the source besides safe minimum standards.

Water Directive establishes a system for promoting the sustainable water use, protection of European Union water resources and ecosystems, safeguard of future water uses and also specify that Member-States must encourage public participation in the implementation of the Directive which means a call for an integrated water resources management. This concept was already recognized in the Rio Declaration, to a large extent based on the Dublin Principles developed

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<sup>3</sup> (Directive 2000/60/CE) in <http://www.inag.pt>

earlier that year. For that, and in sequence of the application of the subsidiarity principle in the functional sense to the issue of allocating decision-making power to the various levels in water policy, this resource should be managed in a basin context, under the principles of good governance and public participation (Maia 2006).

The idea of citizen's participation in environmental issues and the need for access to information on the environment held by public authorities is stressed in principle 10 of the Rio Declaration (Agenda 21) and the Aarhus Convention. This Convention is an environmental agreement linking human and environmental rights focusing the interaction between the public and public authorities in a democratic context and appealing to government transparency, accountability and responsiveness. It recognizes that in the field of the environment "improved access to information and public participation in decision making enhance the quality and the implementation of decisions, contribute to public awareness of environmental issues, give the public the opportunity to express its concerns and enable public authorities to take due account of such concerns...and the importance of the respective roles that individual citizens, non-governmental organisations and the private sector can play in environmental protection".

It is a new ethical approach supporting that sustainable development can be achieved only with the proactive participation of all stakeholders. This is a bottom-up strategy, a complementary approach of the subsidiarity principle, calling for institutional mobilisation and coordination, ecological skilfulness and perceptual change.

Subsidiarity confers legitimacy to any level capable of fulfilling specific water management functions. But since these functions need to be coordinated with one another, with other environmental policy measures, and with other policy areas, functional legitimacy must be highest for institutions and mechanisms facilitating such coordination.

Decentralization, especially concerning water distribution to consumers, makes it easier to ensure financial autonomy and the involvement of the private sector and water users in water management by means of smaller, locally managed

institutions, whether public or private, may open up new sources of financing, especially where central government transfers are no longer possible. Besides, they have more effective authority to charge and collect fees and more freedom to manage without political interference.

The cause of human liberty is best served by a minimum of command and control centralized government and, if compulsion is necessary, local and decentralized authority is more acceptable than a centralized source of power. On the grounds of efficiency, we also believe that the more nearly the costs and benefits of water projects are brought home to those that make the decisions, the more correct those decisions will likely to be. The spillover effects, which are the crucial defect of private and local decision-making, may be partly remediable through a more appropriate definition of property rights to coincide with the span of the decisions involved.

Side by side, stakeholder participation in water management potentially assist the growth of environmental awareness, empower the public in participating in environmental decision-making which has served to incorporate local knowledge and circumstances leading to better compliance with pollution prevention and efficient water use. It is a complementary approach to environmental education and to education for environment and sustainability, helping to built local capacity, encourages greater cost sharing and enhance transparency and institutional performance.

## **2-An overview of collective action theory and conceptual framework**

Central problem to collective action according to Olson (1971) is to foresee which are the conditions to be fulfilled in order to achieving that one or some members of a group have incentive to act voluntary on behalf of all members, providing a shared interest ( non-excludable benefits) with the characteristic of a public good. It is costly to develop institutions to exclude potential beneficiaries from it and it has benefits to all members, even to those not participating for the provision of the

good. The successful provision of that public good requires the voluntary participation of a critical number of individuals.

Most definitions of collective action involve a group of people with shared interest and common action. A briefly notion is put forward by (Sander, 1992) to whom collective action will occur when more than one individual willingly agrees to contribute to an effort in order to achieve an outcome.

Olson (1971), page 50, made a distinction between privilege, intermediate and latent groups as follows:

“A ‘privilege’ group is a group such that each of its members, or at least some of them, has an incentive to see that the collective good is provided, even if he has to bear the full burden of providing it himself. In such a group there is the presumption that collective good will be obtained, and it may be obtained without any group organization or coordination whatever.

“An ‘intermediate’ group is a group which no single member gets a share of the benefit sufficient to give him an incentive to provide the good himself, but which does not have so many members that no one member will notice that any other member is or is not helping to provide the collective good. In such a group a collective good may, or equally well may not, be obtained, but no collective good may ever be obtained without some group coordination or organization.”

“A ‘latent group’ is distinguished by the fact that, if one member does or does not help provide the collective good, no other one member will be significantly affected and therefore none has any reason to react.”

Groups empower individuals and allows them to better cope with risks and provides a net benefit that most governments and the private sector do not ( Place et al 2002); they also allow for flow of information and facilitates access to resources that otherwise would be difficult to achieve. They may strengthen the

bargaining power, which calls for its importance for disadvantaged community interest groups, sharing information and accomplishing common goals.

Following the approach of Myatt and Wallace (2005), the success of an organized group which they call “ team” depends upon the costs and the benefits involved; the variability and correlation payoffs; the team size crucial for success; the return of any excessive or unused contributions, and the set of potential contributors. Collective action is easiest when the average contribution costs is low and the average value placed on the public good is high. Besides, negative correlation between costs and benefits tends to undermine the stability of the team, while a positive correlation enhances the stability of a successful collective action.

As regards the team size, the authors noticed that, *ceteris paribus*, the larger the teams, the more difficult to organize it; but on the other hand, it may enhance individual benefits from a higher- value public good and consequently, reinforcing team stability.

They find that despite of the free riding behavior- which want to benefit with the provision of the public good without bearing the respective costs -, there are incentives to participate in a collective action. Free riding does not undermine collective action, even in large groups, although it may generate an efficiency loss as it can increase the costs of providing a fixed level of public good according to Dawson and Segerson (2003).

Werner et al (1994) observe that the free rider incentives do not destroy the viability of successfully collective action although it generates a gain for both participants and not participants in the team. Nevertheless, Pereira (1996), Olson (1971), Sandler (1992) among other authors, note that the free riding behavior may undermine the collective action since there will be an under- provision of the public good.

Drawing heavily on Sandler (1992) that summarize Olson(1971) book, three main issues may have an influence on collective action outcomes:

1-Group size may be a root cause of collective failure. Large groups tend to be pure latent groups as they may not provide themselves with the “shared interest”, the collective good. Besides, no individual or coalition within the group fulfills the conditions of being a privilege group.

Large groups turn down the probability of members meet and know each other; transaction costs of organizing collective action are greater; each member supports a smaller share of costs and it is more difficult to distinguish contributors and not contributors for the collective good. Voluntary provision of the good in this context may not be feasible due to the free rider behaviour of individuals.(Olson 1971).Ceteris paribus, the larger the group, the greater the probability of free-riding, the more suboptimal is the equilibrium.

2- Collective action failure may be related with group asymmetry concerning individual’s taste and/or endowments. These groups tend to be privilege ones; and larger members, with greater endowments will “bear a disproportionate burden of collective provision”.

3- Institutional design and selective incentives- giving private, excludable benefit inducements to contributors- beyond the provision of the collective good for all members of the group may overcome collective failure in large groups.

According to standard economic theory (Olson 1971), all individuals are assumed to have a perfect free rider predisposition, which is based rather on the rationality principle than on egoism assumption and tend to be the more prevalent behaviour, the larger the group is. But sometimes members of a group voluntarily reveal the true willingness to pay for the specific public good, which means this behaviour may be overestimated in economic theory.

Ostrom (1990) analysed that under specific institutional settings, people did not adopt complete free rider behaviour and did not overexploited the common property resources.

Werner et al (1994) analysed the case of the provision of a public good- the prevention of a public bad- , which was totally left to the citizens’ bargaining,

related with a construction of an incinerator. They realized that not only the ease of organizing but also the size of the stakes plays an important role on collective action. Results of these authors are not consistent with the neoclassical assumption of generalized free riding.

Sociological factors may affect citizens' decision to contribute. "The longer an individual has been a member of a community, the stronger the perceived pressure to participate in collective actions." Werner et al (1994)

Ceteris paribus, formal and informal determinants of embeddedness will strengthen individual's incentives to participate for the provision of a public good and attitudinal factors may change people's willingness to pay. Altruist preferences cause people to behave in a non egoistic manner. Although traditional neoclassical approach to human behaviour provides evidence of free riding behaviour, even large groups may overcome this behaviour due to motives that are rooted in the social network, according to Werner et al (1994).

The value attributed to the "shared interest", the expectation of improving their livelihoods, the easier way of accessing resources, the power relations within the group may also shape collective action outcomes.

Some groups may represent strategic alliances that have a clear function to capture the attention of the public and politicians on a chosen subject.

The emergence of civil society organisations such as environmental NGOs (non governmental organisations) according to Guéguen (2006) are horizontal coalitions which bring together producers, consumers, and environmentalists across the all spectrum of a products chain and represent a lobbying of tomorrow.

Environmental NGO' have won huge technical credibility and they are perfectly in control of their dossiers which constitute a factor of influence and symbolise proactive participation to facilitate the discover of points of convergence and the emergence of pre-negotiated solutions rather than opposing the process or slowing it down; these competences bring to the political arena the usefulness of horizontal coalitions. NGOs are crucial to increase representativeness, as it is possible to

speak in the name of shared interests. The World Bank defines NGOs as “private organizations that pursue activities to relieve suffering, promote the interest of the poor, protect the environment, provide basic social services, or undertake community development” (Operational Directive 14.70).

Although these organisations have become increasingly professionalized over the last decades, principles of voluntarism and altruism remain their key defining characteristics which mean that the free rider incentives are not enough to destroy the viability of successfully collective action.

### **3 - Contribution of collective action to water governance**

Governance arises as a matter of public concern whenever the members of a social group understand that they are interdependent as the actions of each individual member influence the welfare of the others. Interdependence gives rise to conflict when the way an individual tries to achieve his goals interfere in or even collide with the efforts of others to pursue their own goals. But cooperation may emerge, when opportunities arise to enhance social welfare by acting to coordinate the activities of the individual members of the group. Interdependence induces interactive decision-making but also may generate the potential for collective action problems as citizens may suffer joint losses originated by conflicts, or fail to gather joint gains due to an inability to cooperate (Olson 1971, Hardin 1982).

Governance systems or social institutions in opposite to organizations or governments, may resolve collective action problems. We suggest that groups can succeed in handling the function of governance without resorting to the creation of conventional governments. Governance involves the establishment and operation of social institutions, a set of procedures, rules, to guideline social practices which can resolve social conflicts, enhance social welfare and mitigate collective action problems (Young 1994).

Concerning water, governance refers to the range of institutional systems at political, social, economic, and administrative level which consubstantiate the



conservation, development and management of water resources and the delivery of water services to society. It comprises the processes, and institutions through which all involved stakeholders, articulate coherently their priorities, guideline their obligations, exercise their legal rights, and conciliate, if possible, their differences. As referred in the document *Towards Water Security: A Framework for Action* (GWP 2000), "the water crisis is often a crisis of governance: a failure to integrate policies and practices related to the management of water resources. Good water governance exists where government bodies responsible for water establish an effective policy and legal framework to allocate and manage water resources in ways responsive to national, social and economic needs and to the long-term sustainability of the resource base". The same is valid for international, sub-national and local levels.

The challenge of sustainability and the crisis of the supply side strategies – due to unsustainability, new governance requirements and lack of economic rationality of the most present large-scale hydraulic projects - make clear that we need to change the water governance strategy. There are new governance requirements based on understanding and co-evolving with nature in an interdisciplinary and holistic approach, towards transparency, citizen's involvement and proactive participation of stakeholders according to Aarhus principles.

The immediate effect of economic measures to restrain non-ecological practices in our present system is to bring about a sharp rise in the prices of much kind of goods, which may mean in the long run, if there is no change in the pattern of consumer's preferences, a fall in the standard of living of those who use them. But pricing is not the unique instrument that will solve water resources pollution and other problems elsewhere.

Certainly pricing strategies promote more efficient and less polluting use of water. It can avoid overexploitation and degradation of water resources. We don't have yet precise information on the impact of pricing on the physical environment although the demonstrable impact on water demand for different uses and consequently the reduction of pressure on water resources (COM 2000). It can ensure that infrastructures are adequately design and that enough financial

resources are collected for maintaining and renewing infrastructures; but application of economic and environmental principles in water pricing policies is limited in much circumstances, namely in developing countries, for low-income groups and some rural and farming communities, mainly as a result of affordability<sup>4</sup> and social concerns. Besides, command and control schemes created enmity between the local people and the authorities without achieving great success.

On the other hand, conflict and competition over water has been increasing and the particularity is that water problems are in first instance social problems rather than technological ones, and can be the major limiting factor in socio-economic development, as it was already noted at the 1<sup>st</sup> World Water Forum<sup>5</sup> in 1997. So, the challenge is finding the pathway from potential conflicts to cooperation potential as all activities relating to water management must harmonise with one another, since the natural water cycle is indivisible not only in geographical but also in the functional sense as OECD(1989) stresses.

The wise use of water resources and the regulation of water management functions require that they be considered as an interrelated system since they are part of a complex of natural resources. Further, they have to be based upon natural ecological issues, considering the relationships among ecosystems depending directly or indirectly on water, rather than upon social or political factors, but without ignoring them once they can be unable factors for sustainability.

Environmental non governmental organisations will have and shall have a worthwhile role in this context and may also see European environmental law as a source of intervention potential. Cooperation may be an important factor in understanding the politics of water management, although such cooperation may be a part of conflict over water resources in as much as water managers join together to fight over who must control water management in a given area. Nevertheless, the benefit stream of cooperation seems to outweigh these costs as we believe it is an assertive way to promote a broader consensus among competing

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<sup>4</sup> Affordability is defined as the relative importance of water service costs in users' disposable income, either on average or for low-income users only (COM 2000).

<sup>5</sup> UN GA special session 1, Marrakesh.

environmental managers and stakeholders, which is to serve as the basis for a resolution of almost all outstanding differences.

How to put water in the minds of people? It is the answer to that question that must be crucial in the political debate about water policies, as remember Vlachos 2006. Indeed, the key issue is to understand that efficacy and not only efficiency must be the challenge in order to guarantee the access to safe water to everybody all over the world as human right.

Easy problems can be solved by market and political system, but hard problems have a different path. Conflict prevention and management relying on water and water systems is not enough today; the rising of a social competence to deal peacefully with conflicts, a coherent set of rules to guide decentralized decision-making need to be encouraged.

For success, we must interact with economists, politicians, scientists, ecologists, economists and spiritual leaders and mainly, with the citizens, in a “let’s work together” approach as a propelling force to generate a balance between water for livelihood and water as a resource.

Collective action shall have an important role in the new approach of participatory governance, at communication and information level, although the State often has a considerable informational advantage over non governmental environmental organisations, which constitute a potentially powerful means to map, measure and manipulate people and the environment (Pretty 1995, Breyman 1993).

Collective action may contribute for the effectiveness of water pricing policy for all the water services including the environment, besides contributing to a deeper understanding of the underlying differences in institutional economical and social context, understanding of spatial interactions and stimulating a change in attitude towards improving environmentally sensitive areas and striving a shift from the state as protector to the group as steward.

Perhaps more relevant, these organizations draw media attention to otherwise neglected local environmental conflicts. Such media attention surely forces

ostensibly more powerful stakeholders to justify their practices on the grounds of sustainable development and social justice.

As it was already stressed, bottom-up proactive participation of stakeholders and all citizens is required by WFD. This approach to environmental policies achieved through public participation and transparency is fundamental and contributes to increasing the chances of successful implementation, facilitates the acceptance of new charging schemes by users, besides making these policies politically and socially acceptable and providing valuable information about potential impact of pricing policies.

The involvement of users and stakeholders can take varying forms, since river basin committees, regional consumer services committees, consumers associations, environmental associations which can be involved in the setting of water prices, raising citizens' awareness of environmental problems and their understanding about the role they have to play for the eco-social sustainability. The effects of the decision to live ecologically shall deeply alter the balance of individual's preferences. In fact, goods regarded as symbols of status will become socially proscribed and the pattern of life may be so altered that it will be possible the rising of a new demand for new types of commodities and an economic effort to meet these needs which can lead to more equitable and sustainable outcomes and may enhance the welfare of real world despite of environmental constraints.

There is also a great deal of interest the developing of collective action as it can overcome imperfections of governments, of markets and of local collectives in environmental conservation, watershed protection, biodiversity conservation issues. But these factors, all at once, may be constraints or facilitating factors in the developing collective action.

Community based natural resource management is increasingly becoming an important approach for addressing natural resources degradation in low income countries. According to Nkonya, E. et al (2005) econometric analysis of survey data, there are factors that are associated with enactment of local bylaws and awareness of and compliance with natural resources management requirements: people are more likely to comply with a bylaw enacted by the local council than

otherwise, which justify the subsidiary principle ; the research also enhances the strong association between awareness and compliance with natural resources management bylaws and the need to promote environmental education as a part of the strategy to increase compliance. Awareness is enhanced if roads environmental education in schools, resource seminars, brochures and district level training workshops.

Devolution of responsibility contributes to greater compliance with natural resources management requirements, as it is greater with bylaws enacted by local councils than with laws enacted at a higher level. In this context, collective action may bridge the gap between citizens and government, may support and promote the cooperation of interested individuals and entities in creating a suitable and feasible institutional framework for solving natural resources and particularly water resources problems.

#### **4 -Conclusion**

This paper tries to identify the conditions under which individuals are likely to be able to participate in collective action schemes and how it can be used to overcome transaction costs and barriers to participation in solving water resources problems.

Sociological factors may affect citizens' decision to participate in collective action. The value attributed to the "shared interest", the expectation of improving their livelihoods, the easier way of accessing resources, the power relations within the group may shape collective action outcomes despite the existence of free riders. We observed that under specific institutional settings, people did not adopt complete free rider behaviour, as foreseen by economic theory.

The developing of collective action may be a way to overcome imperfections of governments, of markets and of local collectives in environmental conservation, watershed protection and biodiversity conservation issues. Allies are crucial to increase representativeness, as it is possible to speak in the name of shared interests. Organised groups may strengthen the bargaining power, which calls for

its importance for disadvantaged community interest groups, sharing information and accomplishing common goals. Collective action also allow for flow of information and facilitates access to resources that otherwise would be difficult to achieve.

Environmental collective action may potentially assist the growth of environmental awareness, promote an active engagement of citizens towards a proactive participation and they are capable of bringing the interest of people to issues that do not directly interfere with day to day life. Besides, they catalyze the public opinion and influence the political agenda for crucial issues, bringing to managers and politics the feeling about the gains with empowering people in participating in environmental decision-making, which serves to incorporate local knowledge and circumstances leading to better compliance with pollution prevention and efficient water use.

Collective action contributes to raising citizens' awareness of environmental problems and their understanding about the role they have to play for the eco-social sustainability Perhaps more relevant, these organizations draw media attention to otherwise neglected local environmental conflicts.

These factors may relieve the legislator, affecting the way in which powers are exercised at European level, particularly as regards the five principles of good governance, namely openness, participation, accountability, effectiveness and coherence.

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