



Planning and Implementation of a Public Participation Process Towards the Development of the Anthemountas River Basin Water Management Plan

E. Pavlidou,¹ S. Famellos,¹ M. Makraki,¹ A. Deliyannis²

¹ Development Agency of Eastern Thessaloniki, ANATOLIKI s.a.,
1st km Thermi-Triadi, 9 Gold Center, GR-57001, environment@anatoliki.gr

² National Center for the Environment and Sustainable Development,
Vila Kazouli, Kifissias & Gr. Lampraki 1, GR-14561, a@sympraxis.gr

Abstract

Social stakeholder involvement is of critical importance in the development, review and updating of river basin management plans. In this work, the methodology that was developed and applied in the frame of a project co-financed by the EU LIFE programme is presented. The specific task aimed to promote public participation and stakeholder involvement in the consultation process for the development of the Anthemountas river basin water management plan in northern Greece. The implementation of the public participation process began in early 2006 and was completed in October 2007. The initial process included identification of the thematic areas and the social partners. Active involvement of the social partners took place through their participation in public Fora, as well as a dedicated consultation committee that was assigned the development of the water management plan of the Anthemountas Basin. The technical tools and in particular the six scenarios constituted the main inputs for the formulation of the river basin management plan. The consensus of local society stakeholders on this plan was ratified through the signing of a water management Protocol, drafted during the final stages of the consultation process.

Keywords

Consultation process; public dialogue; Water Framework Directive

This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC-BY-NC-ND 4.0) license, which permits others to copy or share the article, provided original work is properly cited and that this is not done for commercial purposes. Users may not remix, transform, or build upon the material and may not distribute the modified material (<http://creativecommons.org/licenses/by-nc/4.0/>)

I. Introduction

The Anthemountas river basin is situated at the Chalkidiki Peninsula in Greece (Figure 1), covering an area of 320 km². Originally mainly rural, the area is being increasingly urbanised as a result of its vicinity to the Thessaloniki metropolitan area. Regarding the economy, there is a marked growth in the services sector, though the primary sector remains dominant.

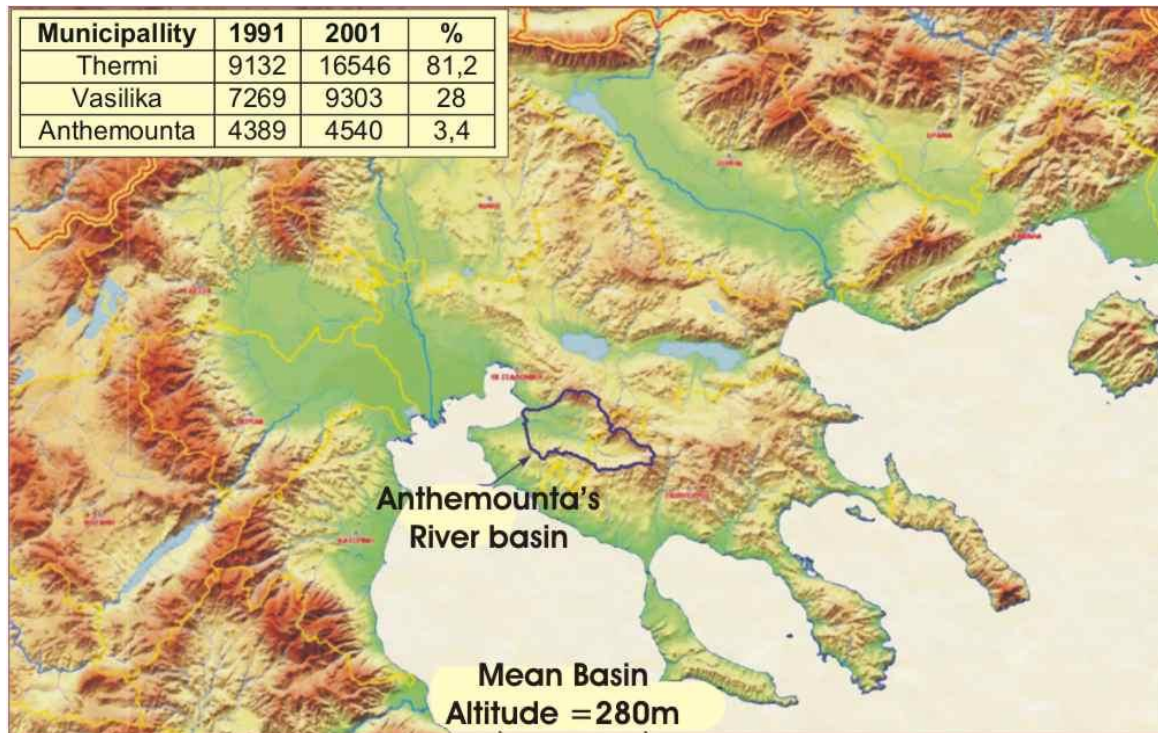


Fig. 1. The Anthemountas river basin

The changes in land use, population and economy lead to an increased demand in water quantity and quality. This in turn is provided almost exclusively from groundwater supplies, exceeding the available renewable water resources by far. While demand is approximately 22.5 million m³/yr, the annual infiltration is estimated to be approximately 5.1 million m³/yr with an estimated surface runoff of 41 million m³/yr (ANATOLIKI, 2006b).

In terms of administration, the river basin is split among three main municipalities (Thermi, Vasilika and Anthemountas) belonging to two separate prefectures (Thessaloniki and Chalkidiki). Given that the water supply companies operate at the municipal level, this makes local water management difficult and results in occasional conflicts of interest.

The above conditions provide an excellent opportunity for the application of the European Water Framework Directive 2000/60 (WFD). This has been supported by the EU through the LIFE environment funding tool, within the framework of project 2004/ENV/GR/00099 titled “Water Agenda”. The project includes the development and application of a sustainable water resources management policy according to the provisions of the WFD (European Community, 2000) and the principles of Agenda 21.

The project partner scheme includes ANATOLIKI s.a. (as beneficiary), the Region of Central Macedonia, the Municipality of Thermi, the National Technical University of Greece, the Hellenic

Center of Environment and Sustainable Development, the Autonomous University of Barcelona and the Municipality of Milan. The project's implementation began in October 2004 and was completed in October 2007.

During the project, technical tools were developed based on the provisions of the WFD; these provided the background and support for the public dialogue. Consecutively, a Public Participation (PP) process involving the various stakeholders, including consumers and civil society, was established in the area, in application of article 14 of the WFD.

II. Methods

A. Process principles

Public Participation for the implementation of the WFD is recommended at any stage in the planning process. Three forms of PP with an increasing level of involvement are mentioned: information, consultation and active involvement. The first two are to be ensured; the latter should be encouraged (European Commission, 2003).

In the frame of the LIFE Water Agenda project, a Public Participation (PP) process between stakeholders, consumers and civil society was developed for the area in order to attain social consensus leading to the formulation of a social local agreement on water resources management.

It is worth noting that the PP process that took place in the Anthemountas river basin district represents the first "social workshop" of its kind in Greece regarding water, or any environmental resource for that matter as far as we are aware of, with a binding outcome. The developed PP process methodology (figure 2) was mainly based on the guidelines of "Guidance Document No 8 - Public Participation in relation to the WFD" (European Commission, 2003). Additionally, the social, economic and environmental characteristics of the area were taken into account.

In light of the lack of previous similar experiences in the country, as well as the absence of a 'public consultation culture' from the part of the state, a certain flexibility was integrated into the PP process already at the design stage. Thus, the project team identified the main thematic areas that the deliberation had to follow, during the designing of the PP process methodology. However, their content were finalized under the contribution of the participants in order to enhance the thematic areas and to ensure that the local society's concern were taken into account.

A crucial point on the designing of the process was the identification of the social partners to participate. In PP cases, the type of participants differs according to the project subject, the implementation area and the activities that will be executed. Due to the different interests (usually conflicting) among the participants, a customized approach needs to be carried out in order to adequately appraise their needs and priorities. Initially the list of social partners was intentionally long and as the procedure moved on, the target groups would become more specific and the number of participants was limited (Davos and Lejano, 1999).

In an ideal situation and according to Agenda 21 directions, the social partners should be involved into all the project's stages. However, adjustments are made according to decisive factors such as the budget and the duration. In the present project, the PP process, which was to last an estimated 17 months, was structured in the following stages (ANATOLIKI, 2006a):

Table 1. Stages of the public participation procedure

Stages	Period
1 st stage. Information provided to specific target groups	March '06 - April '06
2 nd stage. Information and Motivation of local society – Establishment of a Deliberation Committee	May '06 - October '06
3 rd stage. Consultation and policy making – Social Agreement	November '06 - July '07

Information was provided in all the stages of the process. Active involvement took place at the local level during the 3rd stage, through the deliberations of the working groups in order to prepare the specific axes of the water policy and the agreement protocol. The consultation was effective during the 2nd and 3rd stage of the PP in order to discuss and finalise both the water policy and social agreement protocol for water management at the Anthemountas water basin.

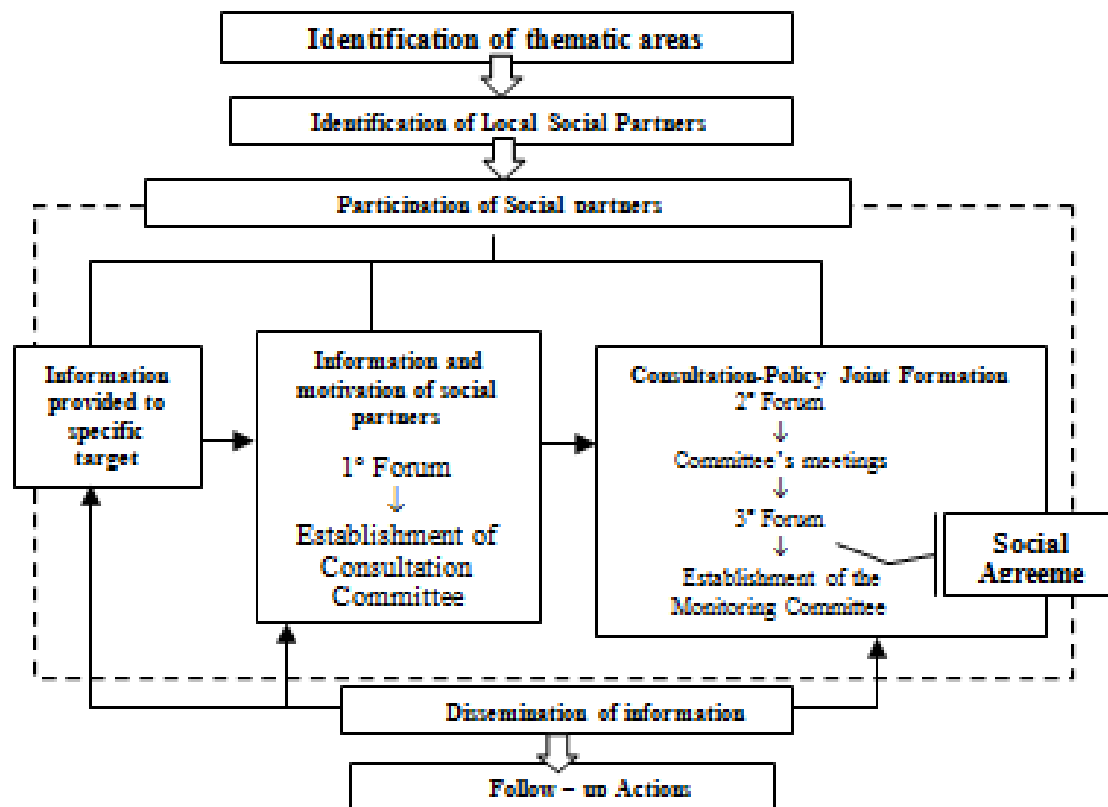


Fig. 2. Overall planning of the Public Participation process

B. Inputs

The Sanitary Laboratory of the National Technical University of Athens (NTUA) identified the surface and underground water bodies of Anthemountas river basin, according to WFD. Consecutively, the pollution sources (point and diffuse) and their environmental impact on water bodies were assessed. From the analysis of pressures, it was evident that intensive agricultural activity and livestock breeding significantly contribute to water pollution in the area, with respect to nutrients

and oxygen limiting compounds. Urban wastewater facilities do not serve all areas, thus there are cases where septic tanks are employed, which occasionally have an impact on the water bodies in vicinity. For industrial wastewater, their impact was found related to the water bodies which are close to the specific industries (NTUA, 2006b).

The economic analysis of water uses at the Anthemountas river basin was elaborated by the Environmental & Energy Management Research Unit of the NTUA. The overall methodological approach for the development of cost recovery and pricing policies for water service provision is formulated in two discrete but interrelated levels: (a) the River Basin level and (b) the water service providers' level. Although the main objectives of pricing are the same in the two levels and they are related to the formulation of a transparent system which results in (a) satisfactory cost recovery, (b) implementation of the "user/polluter-pays principle", (c) provision of incentives for efficient water use and (d) equity, their implementation is different and it is determined by the administrative and institutional framework (NTUA, 2005a). The cost recovery of municipality water services (water supply, sewerage and irrigation) was estimated and allocated among water uses and different water schemes were proposed (NTUA, 2006a).

The main inputs for the formulation of the Anthemountas river basin management plan were the above-developed technical tools and additionally the different water management scenarios, which estimated alternative developments regarding freshwater demand and availability within the Anthemountas basin by the year 2020 (EPEM, 2006):

- "Business as Usual" (BAU): This examined the basin's water resources availability in case of the current trends being the same in the future.
- "Engineering" (ENGI): Potential technical interventions were envisaged in order to maximize the supply of water quantity as well to protect and improve its quality.
- "Hand in Hand" (HIH): Within this scenario, in addition to implementing major technical interventions, the water demand and supply are governed by a number of targeted management policies.

A "worst case" and a "best case" version were developed for each different scenario. It is worth noting that only the best case version of the HIH scenario foresees a water surplus of supply over demand, highlighting the urgent requirement of a water management plan for the area. All scenarios were discussed extensively by the social partners involved in the overall Public Participation process.

C. Process Roadmap and Implementation

The implementation of the social dialogue followed the itinerary depicted in figure 3.

1st stage. Information provided to specific target groups. The scope of this stage was the information of the local society about the objectives and aims of the LIFE project, the status of river basin's water bodies, the value of the public involvement in the decision-making and the methodology of the PP procedure in the case of Anthemountas River. The main target groups were local farmers and opinion leaders and the students of the elementary and high schools.

The information actions focused to these targets groups, aimed at developing the idea of PP among them and the recording of their proposals and response in order to improve the PP procedure as well as the formation of the water management policy. In addition these groups are considered as the main supporters and dissemination factors of the procedure as well as the members of the Consultation Committee.

2nd stage. Information and motivation. During this stage the more general information is provided to all the potential interested parties in the targeted and greater area of the Anthemountas basin. Moreover the motivation for active involvement in the PP procedure is reinforced. The focal point of this stage was the 1st Forum of the social consultation for Anthemountas river water management (5th June, World Environment Day). During this event the scope and the stages of the consultation procedure were presented. In addition the participants of the forum were invited to contribute in the operation of a Consultation Committee. The members of the committee represented the local community and brought the latter's opinions and proposals to the PP procedure.

3rd stage. Active involvement - Consultation and Policymaking. In the beginning of this stage, the 2nd Forum took place. Within its frame the Water Scenarios were presented and the economic analysis & cost recovery of water services in Anthemountas Basin.

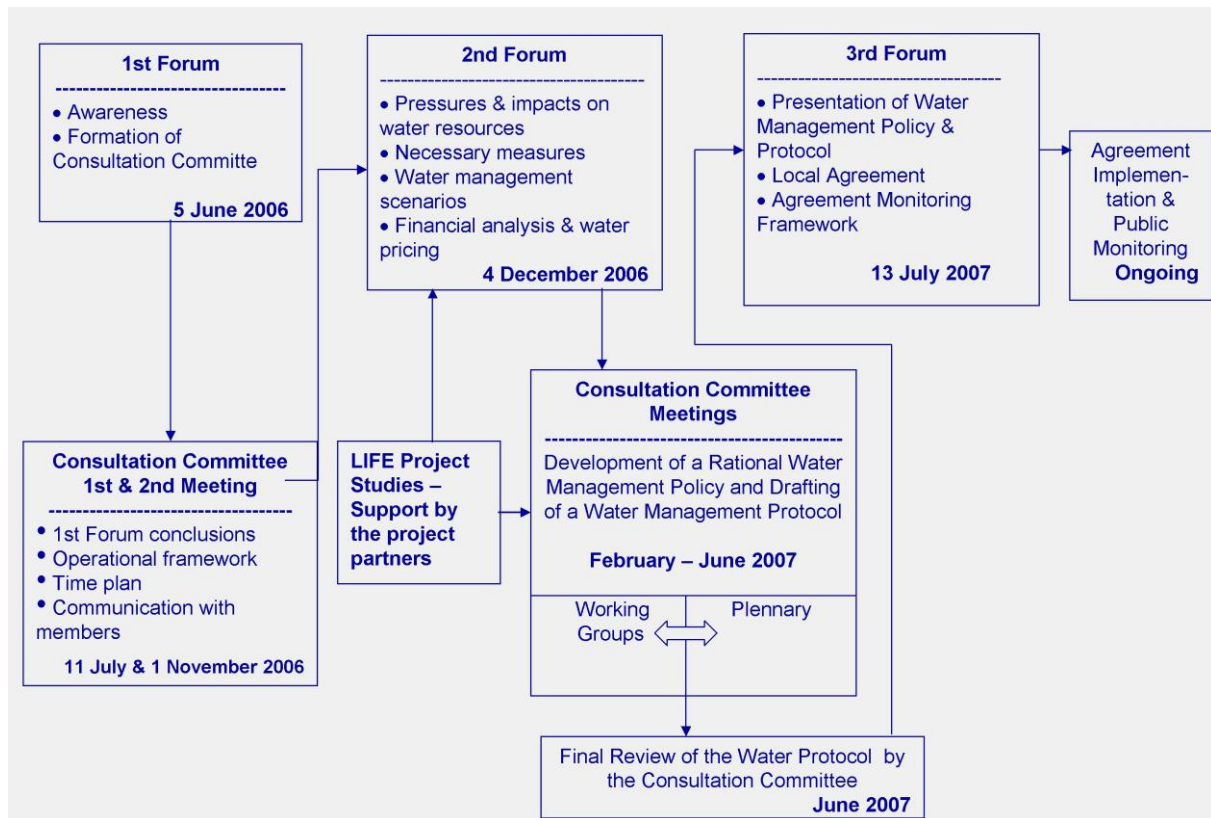


Fig. 3. Implementation of the Public Participation process

After the 2nd Forum the Committee continued its operation in accordance to a "Give and Take process" (San Diego City Schools, 2001). In the frame of its operation, workgroups were formed aiming at more active involvement and to the elaboration on different water issues in cooperation with the LIFE project's partner scheme. The main responsibility of the committee is the formation of an integrated water management policy and a Water Protocol by the end of May 2007. The agreed water protocol was presented in the final forum in order to be approved by the participants by setting-up a Social Local Agreement. The final protocol did cover the anticipated content and structure (see fig. 4), though no quantitative targets were set for water consumption or pricing.

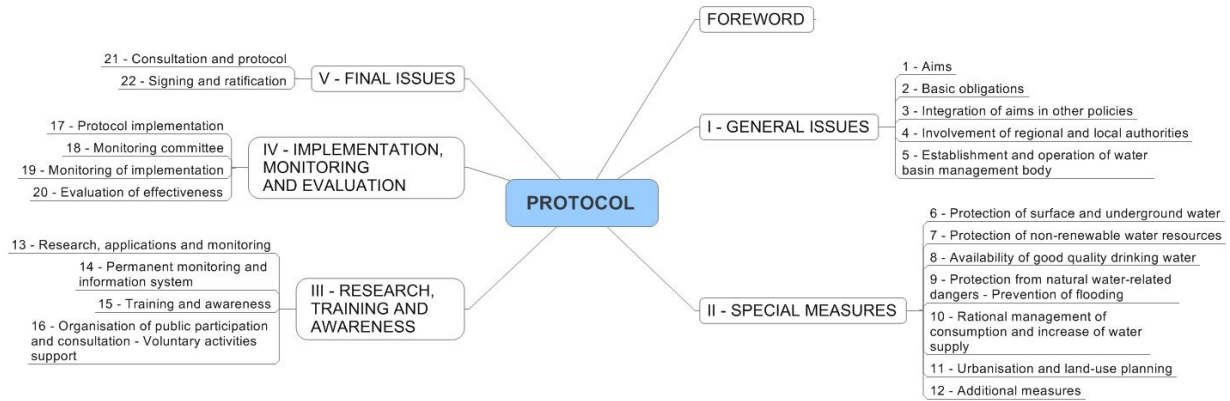


Fig. 4. Structure of the final Protocol text

III. Results and discussion

A. Overview

Participation. Although a well-prepared informative campaign took place, participation was limited. Participation in the 1st Forum was indicative: even though more than 100 posters were posted and 700 invitations sent, along with several news releases published in local newspapers, only 92 persons participated, the unequal geographical distribution of whom is also worth noting. In particular, 55.5% of the participants came from the area of the Anthemountas basin, of which 64.5% coming from the Municipality of Thermi, 27.5% from the Municipality of Vasilika and only 8% from the Municipality of Anthemountas. The remaining 45.5% came from the area outside of Anthemountas basin.

Moreover, a similar situation was experienced in the first meeting of the Consultation Committee, where the participation of representatives of the agricultural sector was minimal. Therefore, it was decided to intensify the provision of information not only to this sector but also to the entire spectrum of the social partners through the Committee. As a result, a more representative participation of the three municipalities was achieved, in order to deliver a commonly accepted water policy.

Furthermore, the establishment and operation of a Working Group on water management in the agricultural sector, which convened in agricultural areas of the Anthemountas basin, significantly increased the participation of agriculturalists, either as individuals or represented through the local cooperatives.

Overall, within the breadth of six Committee meetings, 48 individuals took part, each attending 3 meetings in average. However, once individuals are allocated to their specific organisations (if they have one) we see that a total of 29 organisations participated, each attending 4 meetings in average. Moreover, the number of attendees more or less stabilised after the third meeting, supporting the coherence and consistency of the discussions. Finally all target groups initially selected were represented satisfactorily.

B. Evaluation

According to the Guidance Document on Public Participation in Relation to the WFD (European Commission, 2003), a dialogue process like the one currently examined can be evaluated in terms of its Objectives, Contexts, Levels of Involvement, Inclusivity & Stakeholder Identification, Methods

and Techniques, Innovation, Commitment to Using Participation, Inputs, Outputs and Outcomes. Of these, some have been specifically examined earlier on, while the details of others are beyond the scope of the current paper. A short summary follows of the full list of items:

Objectives: Project LIFE Water Agenda aimed at the pilot implementation of the WFD in Greece. Within this scope several realistic but challenging objectives were included, such as the elaboration of water management tools, the implementation of an information campaign on water resources management and the achievement of a local social agreement on water management. The set objectives were interlinked, though their deliverables can be used autonomously.

Contexts: The overall project context was hardly supportive; a noteworthy example is the current pricing of irrigation water not quantity of consumption but on land area, a fact all but encouraging rational water use. Within this context, the project managed to establish a genuine dialogue with long term effects.

Deliberations. Discussions became more focused as time went by, but also the full breadth of topics was explored, following presentations and information provided by the project partners. Actual phrasing of the topics took place during the fifth committee meeting for the first time, and this was mainly with the support of the facilitator.

Stakeholder input: Figure 5 maps issues raised at the agricultural sector Working Group making their way to the final Protocol text. All issues were included with the exception of two, both related to the agriculturalists' trade organisation and promotion of their interests.

Inclusivity & Stakeholder Identification: Information-wise the full stakeholder community was included in the process; participation was less than ideal, but it was representative and this is important in the long term. Mayors from the main municipalities participated alongside agricultural collectives and individuals, within an atmosphere of equality and common aims.

Methods and Techniques: A variety of methods and techniques were tried out during the process, while significant flexibility was integrated along the way, making this replicable at least within a similar cultural setting, i.e. the Balkan area.

Innovation: Global- or Europe-wise, the project was not particularly innovative. Within the Greek context however, it was, and its positive results are expected to influence similar initiatives in the near future. It is noteworthy that the process was chaired and facilitated by an organisation (Anatoliki S.A.) that does not have an authoritative role; notwithstanding the result was a binding agreement.

Commitment to Using Participation: When the initial project proposal was submitted, WFD harmonisation in Greece was not yet completed. Within the course of the project, Regions became the competent authorities for river basin management. The Region of Central Macedonia, a project partner, has since acknowledged that it will use the achieved social agreement as the starting point for the area's water management plan.

Inputs: The process utilised both technical and political (policy) input, bringing the two together within an integrated application.

Outputs: The tools and texts developed during the project represent the first integrated management study of a river basin in Greece. In fact, many tools were developed to an extent further than what was required for what is essentially a rather small basin, so that they can serve as textbook examples hereon.

Outcomes: The main project outcome is the local social agreement on water management, which for the specific country is indeed innovative and a major step forward. What may be more important is the experience of the actual process.

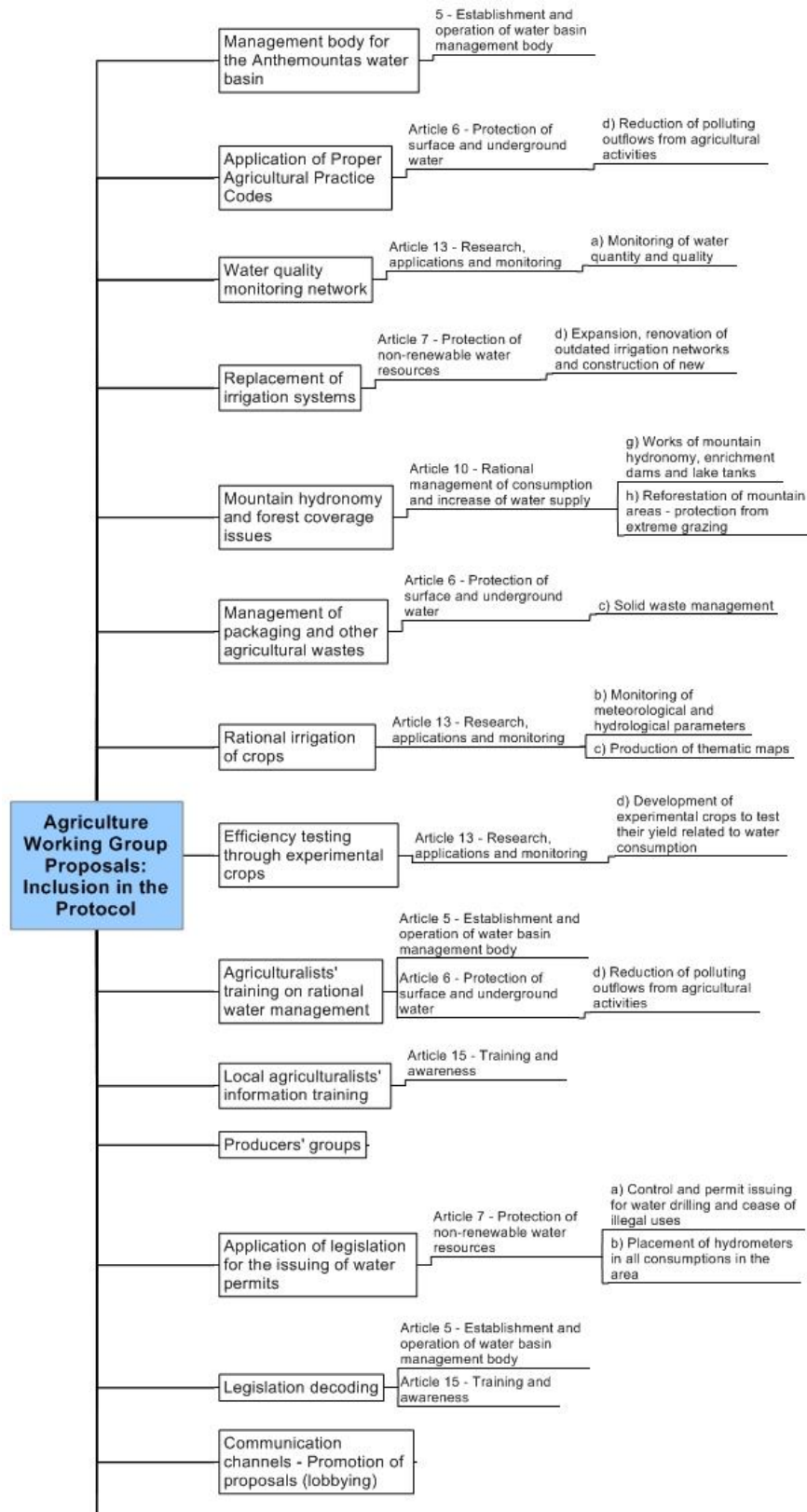


Fig. 5. Issues raised at the agriculture Working Group reflected in the final Protocol (NCESD, 2007)

IV. Conclusions

The LIFE Water Agenda project has demonstrated that genuine public dialogue and convergence are possible in environmental themes within the Greek cultural context. It has also demonstrated that it is not easy; in particular, it appears that an extended role of Local Authorities and the Civil Society is required to move the dialogue forward. Furthermore, it suggests that it may be necessary to transfer certain deliberations ‘on the field’ to involve certain stakeholders.

A few broader policy recommendations stem from the experience of the present process:

- To support the development of a culture of public dialogue starting at the school level.
- Genuine public dialogue, as opposed to formal consultation procedures, could be further encouraged and implemented for a range of local environmental issues, empowering local societies and strengthening their sense of responsibility.

Acknowledgments

The project LIFE04/ENV/GR/000099 is co-financed by the LIFE programme of European Community. All deliverables produced during the project may be accessed at the project website www.lifewateragenda.org.

References

- ANATOLIKI s.a. (2006a). The planned procedure and campaign for the implementation of the social agreement for water management at Anthemountas Basin. Project LIFE04/ENV/GR/000099, Thermi.
- ANATOLIKI s.a. (2006b). Water Balance in Anthemountas River Basin. Project LIFE04/ENV/GR/000099, Thermi.
- Davos Kl., and Lejano (1999). Planning, Environmental Impact and Assessment methods, Vol.B2. Open University of Greece, Patra.
- EPEM s.a. (2006). Water management Scenarios for the Anthemountas River Basin. Project LIFE04/ENV/GR/000099, Athens.
- Ergo Politon (2007). The Charter. Ergo Politon, Athens. Available from: http://www.ergopoliton.gr/index.php?option=com_content&task=view&id=788&Itemid=88888980
- European Commission (2003). Common Implementation Strategy for the Water Framework Directive, Guidance Document No 8: Public Participation in Relation to the Water Framework Directive. Luxembourg, Official Publications of the EC.
- European Community (2000). Directive 2000/60/EC establishing a framework for Community action in the field of water policy. Brussels, EC.
- Graham, J.L. and Heberger, R.A (1983). Negotiations abroad - Don't shoot from the hip. *Harvard Business Review*. 61(4), pp.160-168. Harvard Business School Press, Harvard.
- NCESD - National Center for the Environment and Sustainable Development (2007). Evaluation of the Social Dialogue. Project LIFE04/ENV/GR/000099, Athens.
- NTUA - National Technical University of Greece (2005a). Economic analysis of water uses and services in the Anthemountas basin district. Project LIFE04/ENV/GR/000099, Athens.
- NTUA - National Technical University of Greece (2005b). Report of Quality Characteristics assessment: Identification and classification of water bodies of the Anthemountas river basin. Project LIFE04/ENV/GR/000099, Athens.

NTUA - National Technical University of Greece (2006a). Development of Pricing Policy for water services in the Anthemountas basin district. Project LIFE04/ENV/GR/000099, Athens.

NTUA - National Technical University of Greece (2006b). Report of Pollutants Impact assessment on the water bodies in the Anthemountas river basin. Project LIFE04/ENV/GR/000099, Athens.

San Diego City Schools, Department of Educational Technology (2001). Process Guide in Brainstorming, Triton and Patterns Projects, sited in <http://projects.edtech.sandi.net/staffdev/tpss99/processguides/brainstorming.html>