

BASIC PROBLEMS AND PREREQUISITES REGARDING THE TRANSBOUNDARY IWRM IN SE EUROPE. THE R. EVROS CASE

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The declaration of the *four Dublin principles* and the *Agenda 21* of the Rio Earth Summit, both in 1992, and ten years later, the World Summit on Sustainable Development, Johannesburg 2002, are considered milestones of a long and hard way through which the international community has been gradually moved (though the steps are greatly differing among countries) towards the shaping and implementation of the so called Integrated Water Resources Management (IWRM). IWRM may be defined as *a process which promotes the co-ordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare (efficiency) in an equitable manner without compromising the sustainability of vital ecosystems*. IWRM is a comprehensive approach to the development and management of water, addressing its management *both* as a resource *and* the framework for provision of water services. Besides, the transboundary IWRM is a political process and involves conflicts of interest that must be mediated and, obviously, effective water governance is crucial for its implementation. The IWRM, especially in a transboundary context, has been the focus of research, not only because of water scarcity, but also as a result of its sharing across national boundaries. Approximately 40% of the global population lives in transboundary water basins, shared by more than one country, emphasizing the need for a holistic approach in managing transboundary water bodies and harmonization of engaged to it policies. Transboundary cooperation is shaped by, and contributes to, the development of transboundary management regimes. According to Krasner (1983), a transboundary regime consists of “implicit or explicit principles, norms, rules, and decision making procedures around which actors’ expectations converge in a given area of international relations.”

we consider that a rational process of radical change and a new way of thinking about water management must be established in order to better achieve the 3 key strategic objectives (i.e. *Efficiency, Equity and Environmental Sustainability*) in managing all water bodies and in particular the internationally shared ones (crossing more than one country), through a rational, *integrated* and *holistic* approach. The statement of the Dublin Conference on Water and the Environment *equates* the term ‘*integrated*’ to ‘*holistic*’. If we now want to incorporate the idea of ‘*sustainability*’ into the concept of IWRM, we have to consider the *time dimension*. For, sustainability directly refers to levels of resource-use that can be sustained over time, also for the generations to come.

Prior to 1992 there were six transboundary rivers crossing the sub-Danubian geographical area which consists of territories belonging to SE European or Balkan countries. These rivers are Aaos/Vjosa, Drim, Axios/Vardar, Strymon/Struma, Nestos/Mesta, and Evros/Maritza/Meric. With the emergence of new states (Croatia, Slovenia, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Serbia, and Montenegro) in the Balkan region the number of internationally shared river basins in the area has more than doubled. In fact, seven new rivers (namely: Sava, Kupa/Colpa, Cetina, Una, Drina, Neretva and Trebisnjica rivers) must be added to the above list of transboundary rivers making, today, a total sum of thirteen international rivers crossing the borders of the ten (at present) SE European countries. Greece, Slovenia, Romania and Bulgaria are (at present) the only Balkan countries (among the 10 ones) belonging to the European Union (EU). This means that the Transboundary Rivers in the SE Europe are crossing EU Member and, mostly, non- Member States. The latter ones have, obviously, no obligation to implement the

European Directives. EU Water Framework Directive (WFD), 60/2000, is based on holistic approach to water management and in the case of river basins extending across international boundaries, specifically requires each of them to be assigned to an international River Basin District (RBD). The directive further specifies that member countries shall ensure cooperation for producing one single River Basin Management Plan for an international RBD falling within the territories of the EU; however, somewhat confusingly, the directive at the same time indicates that if not produced, plans must be set up for the part of the basin falling within each country's own territory. If the basin extends beyond the territories of the EU, the directive encourages Member States to establish cooperation with non-Member States and, thus, manage the water resource on a basin level (Articles 3 and 13). The guidance document *Best Practices in River Basin Management Planning*, produced as a part of the Common Implementation Strategy, touches upon international RBDs but does not actually go any further than the directive in specifying how to designate international RBDs. Thus, there is a risk that the rather vague formulations in the WFD will result in multiple interpretations by Member States (i.e. Bulgaria, Greece) in the implementation of the directive. The international dimensions are more explicit in the WFD than in other EU directives, *potentially* requiring Member States to move towards close cooperation in managing shared river basins, the strict legal requirements to actually achieve joint management are weak. This fact has already created cooperation problems in managing transboundary water systems in SE Europe as it is the case of rivers Nestos/Mesta and Evros/Maritza/Meric. Thus a basic, first priority, prerequisite for implementing IWRM in SE Europe is the existence of a clear, strict and rational set of legal requirements by the EU for joint management of transboundary rivers in the whole of EU geographical area. For this specific job a working group of experts must be established under the Common Implementation Strategy.

Perhaps the biggest problem in sharing an international water resources system is its sheer scale and the opaqueness of system interactions over large distances (upstream and downstream). For instance, it is difficult to quantify the consequences of upstream land use changes on downstream flood levels. This opaqueness may result in unforeseen negative consequences of human interventions, which are difficult to correct and may give rise to tensions between riparian countries sharing the water system.

Besides, within the same international river basin, national interests usually differ; thus nations may develop diverging policies and plans which are not compatible. This is the *sovereignty dilemma*: to what extent may individual countries develop and use resources found within their territories, and to what extent do they have to consider interests of riparian countries, and the '*common interest*' of the *river basin as a whole*? One of the biggest challenges in sharing international rivers is to identify development strategies whereby all riparians eventually benefit from an equitable allocation of costs and benefits.

At a national level, the management of a river basin is further complicated by the often/usually existing gaps between policies, plans and practices. New policies which are required to deal with the complexity of IWRM are difficult to implement by the existing sectoral institutions. Plans, when implemented, often encounter a reality on the ground that was not anticipated; requiring the re-working of implementation strategies; or else local actors may circumvent or simply ignore new policies and new plans. The above has given rise to an increasing importance of public participation in the formulation of policies, plans, and in operational decision-making.

Apart from the previously mentioned issue regarding the EU WFD, we believe that the fundamental prerequisite for an optimal elimination or mitigation of all the above mentioned problems and complexities engaged to IWRM of transboundary rivers by the riparian countries is their realization that the "foundation for a balanced and equitable sharing of the river system is its *fully integrated* management, *tailored-adapted* to the *physical and non-physical* characteristics of the *particular case*". It must be underlined that adaptation to the coming climate change has to be considered from the first stage of the management process. *Adaptive management* has been proposed as a way of dealing with uncertainty and change (Holling 1978). It aims at developing robust and flexible management strategies that perform well under different possible futures and can be modified if necessary. It acknowledges that current knowledge will never be sufficient for future management (Pagan and Crase 2004). Therefore, policies are treated as hypotheses and their implementation as experiments to test them (Walters and Holling 1990, Gunderson 1999). Adaptive management requires a process of active learning by all stakeholders, and continuous improvement of management strategies by learning from the outcomes of implemented policies (Geldof 1995, Pahl-Wostl 2004, 2007). The learning process is not a matter of random trial and error, but a

structured, cyclical process, involving 1) integrated assessment of current problems and possible solutions as perceived by different stakeholders, 2) setting goals, 3) formulation of policies that are hypothesized to contribute to reaching the goals, 4) implementation, to test the hypotheses, through 5) systematic monitoring and evaluation of policy outcomes, including surprises. In practice, these are not distinct stages, as the system pulses through alternating spurts of learning and implementing. In fact, adaptive management requires urgently new legislation; new needs for information; new approaches to management; new technologies and new procedures of weighing alternative operational scenarios for planning and decision-making.

In order to further present the prerequisites resulting from the analysis of above fundamental statement it is inevitable to use a conceptual model which links (within the same structure) the *IWRM* (*foundation*) to its goal, which is the equitable and sustainable *sharing* of transboundary water systems (*roof*). We consider as most appropriate the relative one presented by H.H.G. Savenije, P. van der Zaag (2000) and visualised by a classical temple (ancient greek/roman style) where there exist three pillars, based on the foundation (*IWRM*), which support the roof of the temple (*water sharing*). The central pillar is that of *technical cooperation*, which may also be called the *operational* pillar. The two side pillars are the *political* pillar, responsible for an enabling environment, and the *institutional* pillar responsible for laws and institutions. All three pillars are representing the three sets of necessary prerequisites to arrive at an equitable, balanced and sustainable sharing of international waters. If one of the side pillars is weak, meaning either a low political commitment or inadequate legal and institutional arrangements, the sharing of international river basins may not be firmly embedded and is prone to unbalanced management decisions. The metaphor further implies that the operational pillar is central to the success of the management of international river basins. It may support most of the load if one of the outer pillars is weak, cracked or in the process of repair or restructuring. The integrative approach not only implies that each pillar is consistent in itself (regarding inter-sectoral and cross-border policies, plans and practices), but also that the three are compatible with each other, i.e. are 'level' (for instance, that legal and institutional arrangements are consistent with, and reinforce, operational strategies, and vice versa).

Transboundary river Evros basin (about 5300 sq. km, shared by Bulgaria 66%, Turkey 28% and Greece 6%) represents a particular case where we can use the above conceptual model (the ancient temple metaphor) to categorize the presently existing problems (as the mentioned in previous paragraphs) and the necessary requirements engaged to IWRM implementation towards obtaining a rational sharing of the river's waters. From the analysis of this case through the use of the model, it is apparent that all the three pillars (operational, political and institutional) mentioned above are in a *problematic state* (nearly non existing or, at most, very weak with low bearing capacity). The numerous water related initiatives and agreements which have been undertaken and signed, respectively (by central and local governments), so far, mostly on a bilateral basis, have been proved inadequate (due to various political, cultural and other socio-economic reasons, exhibiting varying content and intensity in the course of time) for creating an enabling environment and a cooperative management structure (through a tripartite river commission) with strong supporting pillars. The prolongation of the present unstable and risky status facilitates the occurrence of political tension and conflicts, especially during crisis periods (flooding, water scarcity, pollution incidents, etc). Thus, the three riparian countries (Greece, Bulgaria and Turkey) should, urgently, identify, accept and look upon all the existing cross border water management problems and then must work hard for reaching a preliminary, framework agreement (through discussions/negotiations on a *win-win* basis) where intermediate and final goals and the engaged to them prerequisites, as well as the appropriate actions/means/measures to satisfy the latest, must be clearly defined. The kick-off for this framework agreement requires strong political commitment and from all three participating countries and perhaps some degree of pressure/imposition by an international political body as the EU. Greece, the oldest European member and the one that is mostly suffering (i.e. floods, pollution) from the inadequacies and negative impacts of the poor cross border cooperation regarding river water resources management, has both the right and the duty to act as a *catalyst* using all its european experience and support and take all the proper initiatives, exercising all its pressure (political, scientific, etc), towards a rational tripartite agreement mentioned just above. This framework agreement for the river Evros basin (the largest in the greater area) may well act as a basis for tailoring relative agreements for implementing IWRM in all transboundary SE European rivers, where all relevant *costs and benefits* will be rationally allocated and equitably shared in a sustainable perspective among the engaged, in each case, riparian, neighboring countries.