

## INTEGRATING SWEDISH WATER RESOURCE MANAGEMENT – AN ADMINISTRATIVE ‘TRILEMMA’

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### ABSTRACT

Sweden's efforts to implement the EU Water Framework Directive (WFD) mean nothing less than a revolution to traditional Swedish water management. Abandoning historical political and administrative boundaries, a Commission Report in November 2002 outlined a whole new water management organisation. Five super-regional Water Authorities will be set up by the end of 2003, with authority to issue binding directives and management plans to existing regional and local administrations. At the same time, the Commission outlined a whole new system of stakeholder involvement in local water management, expecting local agreements and/or joint stakeholder associations to implement management measures. This paper addresses the administrative and regulatory problems involved in adjusting these three levels – super-regional, traditional regional/local, and ‘super-local’ - to ensure an *integrated* water resource management. The analysis of how Sweden tries to accommodate this ‘trilemma’ particularly addresses issues of integrating the partly self-regulatory ‘superlocal’ management alternatives within the larger system of integrated water resource management, seen from the viewpoints of effectiveness, participation, and legitimacy. The study is part of the Strategic Water Research Programme – (VASTRA [www.vastra.org](http://www.vastra.org)) – financed by the Swedish Fund for Strategic Environmental Research – MISTRA ([www.mistra-research.se](http://www.mistra-research.se)).

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### INTRODUCTION: REVOLUTION IN A SHORT TIME!

The EU Water Framework Directive (WFD) means nothing less than a revolution to traditional Swedish water management. Historically, water management rested on two pillars, one legal, and one organisational. The Water Act of 1920 regulated all *economic* use of water. The guiding principle was economic benefit to the owners/users of water resources. The Environment Protection Act of 1969 regulated the activities with *ecological* consequences on water. The guiding criterion for issuing permits to polluting activities was BAT, balanced by considerations of business capacity, and local and socio-economic benefits of the activity. Most notably, the organisation of Swedish water management followed historical political and administrative boundaries. Local governments used their strong ‘physical planning monopoly’ to designate water bodies for different purposes, and the national government regulated water resource use in the name of ‘national interest’.

Some changes occurred in the 1990's. The 1998 Environmental Code accommodated most economic and ecological legislation relevant to water resource management. Licensing activities came under the new Environmental Courts. Sweden's new strategy for realising sustainable development involved 15 National Environmental Quality Objectives (NEQO's) promulgated in 1998 and finally decided upon in 2001. Several concern water resource management, e.g., *Swedish Lakes, Rivers and Streams, Good-Quality Groundwater, A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos*”, and “*Thriving Wetlands*”. The Parliament's decision set in motion a process that is foreseen to involve all sectors in society. This is where the EU WFD creates shockwaves. Under the banner of “*Resources to Water, not to Administrations!*”, a Commission Report in November 2002 outlined a whole new organisation for Sweden's water resource management. Five new super-regional Water Authorities will be established *by the end of 2003*, with authority to issue binding directives and management plans to existing regional and local administrations (SOU 2002:105). At the same time, the Commission outlined a whole new system of stakeholder involvement in local water management, expecting local agreements and/or joint stakeholder associations to implement management measures.

So, the Swedish water revolution caused by the EU WFD is first and foremost *organisational*. The new WA's constitute a new level of government, not elected by the citizens or the stakeholders in the water districts, and in some aspects overtaking functions of the national government. At the same time as local governments are expected to cooperate voluntarily in managing common water catchments, their planning authority is circumscribed, and no precise criteria for how to organise this cooperation are outlined. The stakeholder involvement's position in the suggested new order is, to put it as the Commission report suggests.

Following a presentation of the major changes proposed by the Commission, I will discuss the possibilities and problems of the Swedish implementation of the EU WFD as an administrative ‘trilemma’, involving existing government levels, the new super-regional Water Administrations, and the expected cooperative catchment and stakeholder organisations. The assessment particularly addresses issues of institutionalising ‘super-local’, partly self-regulatory stakeholder management alternatives within the larger system of *integrated* water resource management, seen from the viewpoints of *effectiveness, participation, and legitimacy*.

***Geographical Management: Water Divides and Basins, Unite!***

The 2002 Commission report presents a new geographical pattern for Swedish water management. The country will be divided into five (5) water districts, delineated according to the major divides that can be drawn between the water catchments' connection to the major sea basins surrounding Sweden. The boundaries of the next lower level are drawn along water divides among the 119 major catchment areas and river basins in Sweden. Finally, at the lowest level there are all the thousands of sub-catchments, lakes and smaller watercourses (SOU 2002:105, ch. 4).

Each of the levels defined by such water divides will have a unified organisation of water management. The districts are to be governed by five (5) regional Water Authorities. This means a new super-regional level of administration in Sweden above the regional 21 'counties' with both a County Administration (the state's regional administrative arm) and a County Council (a popularly elected body responsible particularly for health care). For the 119 major river catchments, the Commission proposes inter-municipal 'partnerships', including the local governments of common catchment areas, as well as industrial, agricultural and other water users and their interest organisations. Given the limited size of some river basins in the south, the Commission wants to limit the number of partnerships to 70 to 80 (SOU 2002:105, ch. 5).

The Commission outlines two organisational alternatives for the 'super-local' level. One is based on voluntary agreements. A group of stakeholders in a smaller catchment may enter into negotiations with the responsible local or regional authority in order to reach a 'negotiated environmental agreement', thus getting official recognition of these measures and of the responsibilities for implementing them. The other 'super-local' idea is to establish 'joint property management associations' among groups of stakeholders to carry out specific water management measures (SOU 2002:105, ch. 6).

***Effective Management: All Power to the Districts!***

The 2002 Commission report makes clear that *cost effective* water management demands a coordination of activities and therefore a concentration of power to the Water Authorities in the five districts. Being responsible for implementing the EU WFD, the Authorities are empowered to establish District programmes, including objectives for water quality and quantity, measures for achieving these management objectives, programs for monitoring and measurement. It is most notable that the objectives for water quality set by the Authorities will take the form of statutes. They will thus be binding for all sectoral, regional and local authorities with operative duties and/or activities involving or affecting water resources, as well as for private sector stakeholders and water users.

The new Water Authorities will thus establish and determine the Action Programmes for the districts. They also coordinate and ratify the Management Plans that are worked out in the partnerships at the major catchment (river basin) level. The WA's also have the overarching responsibility for monitoring the water resource quality in their regions, and to work out how the operative responsibilities for this are to be distributed among existing regional and local authorities. The WA's are of a permit for polluting activities is to be decided by the Environmental Courts or responsible County Administrations. It should again be noted that 'super-local' management arrangements – be they voluntary agreements or joint property water management associations – must be acknowledged by the WA's (SOU 2002:105, ch. 4).

With this formidable concentration of powers in the WA's, what is left for the municipal governments? As just pointed out, local governments sharing common water catchments are to join in voluntary partnerships. Should the actors in a major catchment fail to unite in common water management, however, the Water Authority can force the formation of a catchment partnership. The primary responsibility of these partnerships is to (a) work out a Management Plan for the catchment, (b) suggest measures to be taken and (c) get all this ratified by the WA. Apart from this, the Commission is quite vague. The partnerships should "provide for consultation" with stakeholders and "be active in implement Plans (SOU 2002:105, ch. 5).

***Participatory Management: To the front with the property question!***

The 2002 Commission report acknowledges the importance of stakeholder *participation* in water resource management. As mentioned, two alternatives are outlined. The one involving voluntary agreements is only briefly discussed. A group of stakeholders may join to implement some management measures and seek a WA-sanctioned recognition of these measures in return for some 'countermeasure', such as alleviation of other binding clauses in Action Programmes or Management Plans. Nothing is said about the relevant circle of stakeholders and participants in the agreement model.

This is, on the other hand, a central feature in the other participatory alternative. The establishment of stakeholder cooperation through joint property management associations is fully based on real estate law. Only those who own adjoining property can become joint association members. The association is set up through a special procedure where a land surveyor is authorised to draw up the proper boundaries of the association and set the conditions for stakeholder participation as well as decision-making rules for the association. The relationship between the measures implemented by the association and the objectives and measures spelled out in Action Programmes and Management Plans should be made explicit in the association's statutes. Once set up, the associations are expected to run their business in accordance with the established rules and statutes. Decisions are to be taken according to one head, one vote. Issues involving economic

contributions or sacrifices must, however, be decided on the basis of property shares, should any of the participating stakeholders so demand (SOU 2002:105, ch. 6).

***Legitimate Management: Appoint, Incorporate and Counsel!***

Introducing a wholly new organisation of course raises questions of the legitimacy of that new order. The 2002 Commission report addressed this aspect as follows. At the super-regional level, it links the new powerful Water Authorities to representative democratic government by vesting the national government with the power to appoint the WA Board of Governors. It wants to secure the legitimacy of WA's among other authorities as well as among different water interests by suggesting that appointed Board members "should represent different aspects of society – the central government, local government, the business sector and environmental protection organisations" (SOU 2002:105, ch. 4).

At the major river basin level, the legitimacy of inter-municipal partnerships is to be enhanced by including not only the municipal governments and authorities but also "companies, water conservation associations, organisation, etc.". As we have already hinted, legitimisation at the 'super-local' level of sub-catchments is to be gained through as much self-governance as possible for stakeholders, users and other water interests (SOU 2002:105, chs. 5 & 6).

Also in terms of process, the Commission report discusses issues with a bearing on legitimacy. The process of working out and determining Action Programmes and Management Plans will provide rich opportunities for counselling. It will be mandatory for the WA's to deliberate with local governments, county administrations, and sectoral national agencies. The WA's should also seek the views of private interests and stakeholders through publicly announced hearings and through exhibitions of the final versions of Action Programmes. A key function in the counselling process is expected for the inter-municipal partnerships at the main river basin level (SOU 2002:105, ch. 3).

***Integrating Effectiveness, Participation and Legitimacy: The 'Trilemma' Outlined***

The foreseen new structure of the Swedish water management would indeed change the organisational landscape, the boundaries of which were drawn as far back as the 17<sup>th</sup> century, and developed into its present national-regional-local form for most societal sectors over the last seven decades. These boundaries jig-sawed water basins, catchments and sub-catchments, thus making for sub-optimal water management. The new order – instigated by the EU WFD – is consciously adjusted to water divides, to allow for coordinated and effective planning, use and protection of Sweden's water resources the water divides.

Thus, it closely resembles the last of Elinor Ostrom's famous design principles for long enduring common property resource regimes, i.e., a system of 'nested enterprises', with management organised in multiple layers. Furthermore, the proposed structure also resembles some of the other of Ostrom's principles. One obviously concerns "clearly defined boundaries", as evidenced by the geographical approach to organisation. Another concerns what Ostrom calls "minimal recognition of rights to organise" (Ostrom 1990:90). Stakeholders have some opportunity to establish their own local institutions for self-regulatory management activities through the devices of negotiated agreements and joint property management associations.

Geared as it is towards effectively integrated water management, however, the proposed new Swedish order still poses several problems for *integration* and *effectiveness*. Is adding a new organisational layer and giving it powers to force actors already responsible for regional and local physical planning to help working out and adopting special Action Programmes and Management Plans really a way to effectively integrate water management? Could there really be effective integration among municipalities sharing water catchments in common on a voluntary basis? How probable is it that local governments redirect or abort some of their 'planning monopoly' over the physical resource use to allow for integrated *water* management, given that they are not promised special resources or a clear legislative mandate in water management?

This leads to problems of *participation* and *legitimacy*. Will lower levels view the implementation measures they are to be responsible for as legitimate demands, if they are not provided with resources that enable them to carry out these duties? What is the legitimate circle of actors, stakeholders or interests in a process of negotiating local agreements with the WA's? How legitimate will other water interests judge management actions and restrictions on water use decided and implemented by a narrow circle of stakeholders forming a joint property management association? In short, could effective cooperation among stakeholders really be expected?

***Proposed Management Solutions: Do they Solve the 'Trilemma'?***

My analysis of the Swedish administrative 'trilemma' will have three major points of departure. Firstly, results from theoretical and empirical research on administration and policy implementation strongly suggest that effectiveness is greatly enhanced if affected interests are allowed to participate in planning and decision-making. Measures founded on more accurate information about the preferences and views of those affected are more accurate and thus more effective. It is also more likely that those interests will actually participate in the actual implementation of measures, because participation in the early stages is likely to increase the perceived legitimacy of those measures (Peters 1996, ch. 3).

However, research on stakeholder participation suggests that the stronger the opinions among affected interests, and the more they influence strategies and measures for resource management, the more likely the emergence of different implementation of decided measures, and even different levels of ambition. This is even more so when stakeholders and affected parties are well organised. One example: The Dutch Government concluded in 2001 that the negotiated agreements with polluting industries - a cornerstone of the Dutch National Environmental Policy Plans - “did – in fact – result in increased efficiency, but *in retrospect, the impression is that the stakes could have been set higher*” (NEPP 4 2001:9; italics mine).

Secondly, social science theories on actor rationality will be utilised to analyse whether the proposed organisational structure provides incentives sufficient to spark catchment cooperation. If voluntary cooperation provides for certain gains, compared to the sacrifices that stakeholders and affected interests might suffer under “the shadow of hierarchy” – read under WA Programmes and Plans – it is rational for stakeholders to cooperate. However, this may be counteracted by differences among stakeholders in terms of their water interests and what resources they have to get influence in the cooperation game (Scharpf 1997). Furthermore, the collective memory of conflict and/or cooperation in a catchment is important (Lundqvist 2001).

Thirdly, Ostrom’s image of water resource management as a system of ‘nested enterprises’ can be used to analyse the prospects for Swedish water management in a ‘bottom-up’ perspective, i.e., going from the lowest to the increasingly higher levels of organisation (deLeon & deLeon 2002).

At the lowest level, stakeholders are expected to join in collective action to manage common water resources through *negotiated agreements* with the WA’s. Here, the legitimate circle of actors is difficult to ascertain. Should it be those farmers expected to take measures against eutrophication, or should it also involve those water users who might benefit from farmers’ actions? The narrower the circle, the more easily effective cooperation may be achieved, particularly if there is some perceivable gain from joining for each individual farmer.

Here is, however, a triple catch: First, effective cooperation depends on the WA’s capacity to provide a credible commitment (read threat) that unless actors join to prevent eutrophication, the major polluters, i.e., the farmers, will individually sacrifice more than if they cooperate. Second, the more such negotiated measures benefit other stakeholders than the providers (read farmers), the less willing these farmers may be to continually provide the management measures, since they may view the distribution of benefits as unjust, and thus question the legitimacy of management measures. The agreed partners may then tend to shrink from joint responsibilities, thus detracting from the effectiveness of the agreed measures. Third, the more uncertainty about the institutional framework of cooperation, as well as about how to solve conflicts with other partners and with beneficiaries outside the agreement, the less effective will be the management (Ostrom 1990:30 ff.; Scharpf 1997, ch. 6). Accordingly, integrated management at the sub-catchment level may not be forthcoming as expected.

Now, these are ‘super-local’ level problems that the Commission’s proposal on *joint property water management associations* is expected to solve. These associations are formed through a special procedure, where a land surveyor draws up the proper boundaries of the joint property. With the assistance of a special ‘water expert’, he also determines the measures to be taken and the distribution of financial and other responsibilities for implementation among the association members, who are exclusively those property owners adjacent to the water body or catchment in question. The association’s statutes, modes of conduct and methods for conflict resolution are also laid down in this formation process (SOU 2002:105, ch. 6).

The joint property association alternative for sub-catchment cooperative management has merits. Particularly, it provides for effective management in the sense that a designated circle of stakeholders with clearly defined joint responsibilities can work under secure statutory conditions to solve common water problems. It is also expected to be part of an integrated ‘nested enterprise’ model in the sense that the purpose and the measures of the association’s work is closely related to the Action Programme and the Management Plan of the district WA (Ostrom 1990:90). Furthermore, this model is linked to a legally established and thus historically legitimised Swedish model for property-owner cooperation in the management of common resources or joint property (Larsson 2001).

However, the joint property association model also has setbacks, particularly for participation and legitimacy. Participation and influence is reserved for the joining real estate owners surrounding the watercourse. Regardless of whether the joint measures taken by the association members benefit or cause sacrifices to other actors surrounding or using the water resource, the latter cannot influence these decisions. This may in turn cause problems for the legitimacy of such joint measures, and thus spill over into distrust in integrated, multi-level water management.

The next higher level in the proposed Swedish system for integrated water management is the local-to-local government ‘partnerships’ for joint management of major river basins. The proposal is extremely vague. Local governments are “to take the initiatives” to form partnerships including other local governments of common catchment areas, as well as industrial, agricultural and other organised water interests. Should these partnerships not be forthcoming, the WA’s can step in and order their formation, to help developing Management Plans for the area (SOU 2002:105, ch. 5).

Since the legal authority of these partnerships is so vaguely outlined, one must go to historic experience of major basin cooperation to assess the prospects. There are presently nearly 60 'water management associations' with a membership similar to that proposed for future partnerships. An empirical analysis underway of Swedish basin-wide water associations indicates that associations with only public sector membership are more willing to adopt water quality improvement measures beside their monitoring activities, whereas associations with industries as members beside local governments do not seem to go beyond monitoring. Earlier published studies show that few of them have staked out an active role in local physical planning (Gustafsson 1996).

What, then, are the prospects for integrated and effective management at this level? First, partnerships based on local governments enjoy a favourable position in terms of participation and legitimacy through their base in representative democracy and the many forms of participatory measures integrated into processes of urban and physical planning.

The Achilles' heel, however, is integration and effectiveness. Under the logic of resource mobilisation, most municipal governments would be inclined to act on their own, e.g., trying to attract new industries and taxpayers, e.g., by using their water resources as a competitive 'bait'. The municipalities' local planning monopoly and their responsibility for the quite often interpreted as promoting socio-economic growth and development - may work in tandem to make local governments compete rather than cooperate. On the other hand, logics of efficient resource use may call for municipal cooperation to share costs and enjoy the benefits of more effectively provided water-related services. However, the logic of common pool resource management provides municipalities and other actors with strong incentives not to engage in effective joint measures (Lundqvist 1998).

There are several reasons for this. First, up-stream local governments heavily dependent on industries and farming may doubt the legitimacy of cooperation with downstream communities that suffer eutrophication and other water quality problems, since the former may feel that they 'subsidise' the latter for managing these problems. These problems of distributing costs and benefits are even more accentuated, the better organised the private stakeholder interests are in the catchment area. With asymmetric actor relations, voluntary partnerships are less easily negotiated, especially if conflicts over distribution must be settled at the same time as the parties negotiate management measures. Resulting agreements are then often found at a lower than optimal level in terms of effective water management (cf. Scharpf 1997, ch. 4).

Thus, the question of how effective and integrated water management can be achieved is still not solved as we move to the highest level. As outlined above, the proposed Water Authorities of the five water districts are vested with formidable powers to achieve the objective of an integrated and effective Swedish water resource management. They decide on binding Action Programmes and promulgate Management Plans to direct the lower levels of 'nested enterprises'. In so doing, they would seemingly be powerful enough to transcend the power and authority of national administrations working with issues relevant to water management. They may force local governments to join in basin-wide partnerships to carry out actions and plans determined by the WA's. They can reach agreements, or stipulate the conditions for joint property management associations at the lowest level of direct stakeholder management.

In theory, this hierarchical authority of the WA's could achieve effective integration through the formalised capacity to override the preferences of other actors within the nested enterprises of water governance. For this to come about, however, some important conditions must be fulfilled.

First, the WA's must be seen as legitimate principals in the district as a whole. Given that they are expected to have Boards of Governors, appointed by central government, this would on the one hand seem unproblematic. On the other hand, however, these Boards are expected to be interest-based. This implies that if the WA's could be suspected to use their power not just to maximize water services and water justice but perhaps furthering some special interests, they would obviously lose some of that political legitimacy. This would particularly be the case if most of the affected interests lack the option of 'exit' from the reach of the WA decisions because of their dependency on a particular water resource or service (cf. Scharpf 1997:172 ff.).

At the same time, these participatory arrangements could provide legitimacy for the new Water Authorities. Appointed representatives from the regional administrations and the local governments could be expected to work for maximizing welfare and securing justice in the water district, thus providing a check on the private (industrial and farming) interests represented on the WA Boards. The open processes of developing Action Programmes and Management Plans could be seen as legitimising devices, providing as they do possibilities for all stakeholder and citizens in the district to voice criticism and suggestions (SOU 2002:105, pp. 94 ff.).

Second, the WA's must overcome the information problem inherent in the hierarchical mode of interaction. If WA's have the power to overrule the preferences of others, they also have the power to ignore the information others possess. Organisational research has shown that the difficulty in getting adequate information can prove fatal to the effectiveness of the organisation's capacity to carry out its mission (cf. Miller 1992, ch. 7). Given what was said earlier about the different logics determining local government action, it is not unthinkable that municipalities would not come forward with all

relevant information to the WA's, in order to preserve as much leeway as possible for their own economic, social and political actions.

Given furthermore the quite exceptional status and authority outlined for the WA's in relation to the national authorities responsible for the sectoral implementation of water-related NEQO's, these agencies may not provide crucial information and skills at the rate and scope necessary for effective water district implementation of the Action Programmes formulated under the WFD. In short, the dependency on others for accurate information could cause problems for effective and integrated management, thus "producing either ill-informed and unresponsive decisions or interminable delays or both" (Scharpf 1997:175).

## CONCLUSION: AFTER THE REVOLUTION?

The revolution of Swedish water management implied by the EU WFD and the proposals for a wholly new structure of 'nested enterprises' has been shown to create problems in the form of an administrative 'trilemma'. The efforts to promote -based' organisation to enhance *effective* resource management come at a cost in terms of *participation* and *legitimacy*. A central cause for this was so far only hinted at, i.e., that the extremely 'top down' EU WFD perspective runs counter to much of what has historically characterised Swedish political and administrative culture, i.e., cooperation based on negotiation to reach agreements that are acceptable to both those responsible for and those affected by policy implementation.

In particular, the WFD process with its strongly binding and hierarchical regulatory framework runs counter to the already established national programme for achieving the National Environmental Quality Objectives by 2025. Much work has already been devoted to this decidedly participatory and negotiative process that has achieved a fair amount of legitimacy among the affected interests at different levels in both politics and administration and in civil society. Under assumptions of actor rationality, one would assume that the agencies, organised interests and local governments would dislike to put to waste the resources already invested in that process and suddenly join a fundamentally different process started from without.

It will thus be quite interesting to follow the political fate of the 2002 proposal. Most probably, the geographical water perspective will remain 'after the revolution'. Much more questionable, however, is whether the specific organisational design with "all power to the water districts" will survive the rapids and torrents in the meandering flow of national politics.

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