



PEER REVIEW (PR) REPORT

Reviewed Competent Authority (RCA):

SOUTH BALTIC WATER DISTRICT in SWEDEN

Reviewing Experts (RE):

- Paolo MANCIN (Regione Piemonte, Italy)
- Jacques GANOULIS (Special Secretary for Water, Greece)
- Patrick WEINGERTNER (National Water Office, France)

April 2016

Organization Prepared by:



PR reference

Date: 18-22 April 2016

Terms of References

RCA	South Baltic Water District, Sweden
RCA counterpart responsible for the PR	Irene BOHMAN (irene.bohman@lansstyrelsen.se)
Reviewing experts	<ul style="list-style-type: none">• Jacques Ganoulis• Paolo Mancin• Patrick Weingertner

1. BACKGROUND INFORMATION and PR OVERALL OBJECTIVES

RCA expected to be evaluated on:

- Program of measures,
- Water Information System, monitoring and characterisation of ground water,
- Coordination and implementation of Rural Development Plans with WFD, economic analysis and the use of objectives and exemptions.

In all aspects RCA has demonstrated an interest to improve and acquire new insights to implement, in many areas.

2. EXPECTED RESULTS

Expected results	Estimated number of reviewing expert man- days necessary	Field of competencies concerned for the expert
1) An evaluation of the “Programme of measures” – how well the district implemented WFD policies into physical measures? Expected advice on how the district can improve the PoM and specifically related to Eutrophication and Hydro morphological measures. (Paolo Mancin, Patrick Weingertner, Jacques Ganoulis)	3 (on site)	Program of measures
2) An evaluation and future recommendation on the work with “Water Information System/Data and Information sharing” – how well do the district use WFD data as a basis for a decision support system at local, regional or national level? (Patrick Weingertner)	1 (on site)	Water Information System/Data and Information sharing

3) An evaluation and future recommendation if the monitoring and characterisation of “Ground waters” is done at a reasonable level using models and assumptions. Expected to compare with other countries. (Jacques Ganoulis/ Patrick Weingertner)	2 (on site)	Ground waters Monitoring
4) Recommendations on how to improve the coordination and implementation of the Rural Development Plans with the agricultural measures in our Programme of Measures (Patrick Weingertner / Paolo Mancin)	2 (on site)	Agriculture Program of measures
5) An evaluation and future recommendation of “Economic analysis” at district level ,and if it is appropriate for making good policy’s based on environmental costs and values (Paolo Mancin)	1 (on site)	Economic analysis
6) An evaluation and future recommendation of the work with “Objectives and exemption” and advise on improvements (Paolo/Mancin / Patrick Weingertner)	2 (on site)	Objectives

3. DOCUMENTS FOR THE REVIEW

Name of the documents	Description / Notice
▪ River Basin Management Plans	Swedish, but available at EEA as a “Google translate version”)
▪ Programmes of Measures 2009-2015	Swedish, but available at EEA as a “Google translate version”)
▪ Draft River Basin Management Plans and Programmes of Measures 2015-2021.	Swedish
▪ Short version in english (Bothnian Water Authority)	English

Websites - Online resources		
Name	Description/ Notice	Address
Water Information System Sweden (VISS)	Available parts in English	www.viss.lansstyrelsen.se
Website of the five water authorities	Available parts in English	www.vattenmyndigheterna.se
Swedish Agency for Marine and Water Management (surface water)	Available parts in English	www.havochvatten.se
Geological Survey of Sweden (ground water)	Available parts in English	www.sgu.se

Documents sent to the experts before the mission on site	
Summary of Management Plan and Programme of Measures in Bothnian Bay Water District	“Consultation 1 nov.2014 – 30 April 2015”
Part 1, Chapter 5 in the draft version of the Water Management plan, South Baltic Water District	“Prioritisation of measures in the South Baltic Water District”
Part 2, Chapter 7 in the draft version of the Water Management plan , South Baltic Water District	“Environmental Quality standards”
Part 4, Chapter 5 in the draft version of Programme of Measures, South Baltic Water District	“Overall impact of the Programme of measures”
Part 5 in the draft version of the Water Management plan, South Baltic Water District	“Water management 2015-2021 – Strategic choices for water management in the coming years”
Fact Sheet, Ministry of Enterprise and innovation, November 2015	“A rural development programme for Sweden”

4. DETAILED MISSIONS SCHEDULE (18th to 21st April 2016)

Monday 18th April

Morning: The reviewers planed their actions during the review days.

Pre meeting (13.00) concerning practicalities at the Hotel Frimurarehotellet where the reviewers stay during the visit. Niklas Holmgren and Irene Bohman

Study visit 14.00-16.30 – responsible Niklas Holmgren (car), participants Lennart Johansson and Katrin Sjöberg (car and documentation), Irene Bohman, Grit Hofer and Åse Eliasson:

- Binga (Lennart, Katrin)
<http://www.viss.lansstyrelsen.se/Waters.aspx?waterEUID=SE627882-152464>
- Hossmoviken (Niklas)
<http://viss.lansstyrelsen.se/Waters.aspx?waterEUID=SE563770-161670>
- Vassmolösaåsen (Åse, Grit)
<http://www.viss.lansstyrelsen.se/Waters.aspx?waterEUID=SE627524-151840>

Tuesday 19th April

Time 8.30-16.00 at Länsstyrelsen Kalmar, meeting room Lagrummet 8.30-11.00 and then Kammaren 11.00-16-00

Time	Issue	Participants
8.30-11.00	Introduction to the organization of the Water Authority and Water management in Sweden	Niklas Holmgren, Water Authority Irene Bohman, Water Authority Sylvia Kinberg, Water Authority (Strategic choices for water management)

	Typical of the district (Lagrummet)	in the coming years and climate change) Paolo Mancin Patrick Weingertner Jacques Ganoulis
11.00-12.00	Program of measures - Presentations (Kammaren)	<i>Presenters</i> Felix Everbrand (blue thread) Jan Pettersson (models eutrophication) Niklas Holmgren (finance) Katrinn Herrlin Sjöberg (finance) <i>Participants</i> Lennart Johansson, Water Authority Åse Eliasson, Water Authority Sylvia Kinberg, Water Authority Vibeke Lirås, County of Kalmar Ann-Karin Thorén, SWAM (web) Annelie Harlén, SWAM (web) Jens Mentzer (web) Paolo Mancin/Patrick Weingertner/Jacques Ganoulis
12.00-13.00	Lunch (together, at own expense)	
13.00-16.00	Program of measures - discussions	Same as above. Felix Everbrand (13.00-14.40)

Wednesday 20th April

Time 8.30-16.00 at Länsstyrelsen Kalmar, meeting room Kammaren

Parallell sessions

Time	Issue	Participants
8.30-9.30	Reflections from yesterday	Niklas, and more.
9.30-12.00	Ground water monitoring and Impact analysis SGU	Lennart Johansson, Water Authority (responsible) Sven Andersson, Kalmar County Jacques Ganoulis
9.30-12.00	Water Information System Sweden	Niklas Holmgren Patrick Weingertner
9.30-12.00	Objectives (Lagrummet)	Katrinn Herrlin Sjöberg, Water Authority Jan Pettersson, Water Authority Annelie Harlén, SWAM (web) Paolo Mancin
12.00-13.00	Lunch (together, at own expense)	
13.00-16.00	Measures regarding drinking water protection	Lennart Johansson, Water Authority (responsible)

	zones	Sven Andersson, Kalmar County Grit Hofer, Kalmar County Felix Everbrand, Water Authority (preliminary) Jacques Ganoulis Patrick Weingertner
13.00-16.00	Economic analysis (Lagrummet)	Åse Eliasson, Water Authority (responsible) Katrin Herrlin Sjöberg, Water Authority (Finance) Therese Lager, Water Authority Bothnian Sea (Part 4, Chapter 5; Overall impact of the programme of measures) (web) Jens Mentzer, SWAM (web) Paolo Mancin
19.00-	Dinner, Tullhuset, Skeppsbrogatan 43	All participants during the review are invited to join.

Thursday 21st April

Time 8.30-16.00 at Länsstyrelsen Kalmar, meeting room Kammaren

Time	Issue	Participants
8.30-9.00	Reflections from yesterday	Niklas, and more.
9.00-11.30	Rural Development Plans with the agricultural measures in our Programme of Measures	Niklas Holmgren, Water Authority (responsible) Emma Svensson, Jordbruksverket Felix Everbrand, Water Authority Carina Pålsson, Emå project Jan Petersson, Water Authority Jens Mentzer, SWAM, Peter Wallenberg ,LRF – Farmers union Paolo Mancin Patrick Weingertner Jacques Ganoulis
12.00-13.00	Lunch (together, at own expense)	
13.00-16.00	Final discussions and remaining questions	All

Friday 22nd April

Completion of report by reviewers.

The review mission took place during two full working days with 3-6 representatives from the RCA and 3 experts. For the reviewing group the mission also included preparation, travelling, webinars and report writing. Globally, it took roughly one man month to fulfil the peer review mission.

5. CONTACTS DETAILS

Principal local contacts that could be met

Name	Occupation	E-mail	Phone number
Irene Bohman	Water Director	irene.bohman@lansstyrelsen.se	070-627 24 19
Niklas Holmgren	Strategist	Niklas.holmgren@lansstyrelsen.se	070-2347268
Katrin Herrlin-Sjöberg	Coordinator	katrin.herrlin.sjoberg@lansstyrelsen.se	070-223 00 55
Åse Eliasson	Coordinator	ase.eliasson@lansstyrelsen.se	072-223 52 89
Åsa "Felix" Everbrand	Coordinator	asa.everbrand@lansstyrelsen.se	072-228 76 99
Lennart Johansson	Coordinator	lennart.j.johansson@lansstyrelsen.se	072-231 09 10
Carola Lindeberg	Coordinator	carola.lindeberg@lansstyrelsen.se	072-502 66 24
Jan Petersson	Coordinator	jan.f.petersson@lansstyrelsen.se	072-560 09 68
Sylvia Kinberg	Coordinator	sylvia.kinberg@lansstyrelsen.se	070-204 14 18

6. PEER REVIEW REPORT:

Introduction:

Sweden has constituted five River Basin Authorities, according to the Water Framework Directive.

In the context of Swedish governance system and for the implementation of the Directive, the South Baltic Water Authority is taking part to national working groups involving the competent National administrations and the others regional and local administrative or water Authorities. The role of the South Baltic Water Authority is crucial for the success of implementing regional water policies, since it represents the strategic and functional connection between the national level of planning and the cooperation with local authorities (Counties and Municipalities). The South Baltic Water Authority, on the basis of the monitoring data collected by the Counties and in adherence with the European and National framework, has produced on time the Second Cycle of the River Basin Management Plans (RBMPs).

The South Baltic Water Authority has shown to have a good internal relation between the staff, has prepared very well the Peer Review Program, has sent to the experts documents translated into English, has assisted them during the mission and has assured the presence of experts of Swedish Agency for Marine and Water Management (SWAM) in a web conference. The impression of the RE is that, during the mission, the RCA has “opened the doors” of the RBMP in full transparency, answering openly all the questions (and satisfying every curiosity) advanced by experts, and as well giving the possibility to visit on site three different Water Bodies (WB) (surface, coastal and groundwater).

During exchanges with RE, RCA also demonstrated real interest for sharing experience and practices in RE countries, in way to find how to improve their implementation methods and organization.

Overall considerations:

At the district level, the South Baltic Water Authority (SBWA) is in charge of coordinating all WFD activities. The board of the SBWA is appointed by the government and is in charge of defining the quality standards, the POM, and the management Plan. The SBWA is also organizing public consultation and is in charge of associating stakeholders to the process. At national level, SWAM is coordinating the 5 river basin water authorities and also help them in sharing methods and standards.

The South Baltic Water District, located in KALMAR, includes 10 counties and 91 municipalities; the population is 2.3 million people, mostly concentrated on the coasts; 43% of the district surface is constituted by waters, including the lake of Vättern; the District has the 35% of Sweden and about half of the pastures. The District has ~30 major river basins and many small shallow lakes and small streams.

The main activities in the district are related to agriculture and land farming, with an estimated number of 1 cow for 2 habitants, with an average size of 80 cows pro farm, dairies, a lot of mills (paper and energy) and historic mining activities.

The main challenges of the RBMP, second cycle, are eutrophication (for 40% of waterbodies), supply of drinking water, toxic substances and hydro morphology (for 80% of waterbodies), within restoring wetlands .

A lot of dams and water power plants, estimated more than 2000, are making obstacle to ecological continuity, and important parts of rivers have been strongly rectified in the past.

However Sweden is reputed for it's mostly humid climate, since two years South Baltic region got very few rain and snow, in such a way that underground and surface water were strongly impacted with drought. Considering this situation, climate change is now becoming a real new challenge to be taken in count.

The RBMP was made with an approach in which citizens and stakeholders have played a key role for identifying problems as well as the most appropriate measures and in which top-down and bottom-up perspectives have been complementary; in this sense, the RCA has underlined the important function of the "Water Boards", a voluntary local forum, representing all interests, for participation and cooperation about all kind of water issues in the territorial context of a physical basin, regardless of administrative borders. The discussion about RCA and RE has offered the opportunity to make an overview of similar processes in other European Countries, such as the "Contratti di Fiume" in Italy.

The data support for RBMP is VISS (Water Information System Sweden), the Swedish system for information data on water, which has been consulted by the RE, especially in the English parts referred to the three WB visited in site. The general impression about VISS is that the system is easily accessible on the web for consultation, has a good synthetic presentation of the geographical and physical characteristics of the WB, together with the main issues related to WFD (Environmental quality objectives, environmental status, impact sources, monitoring stations, protected areas, etc.). Progressive web browsing functions allow the easy access to further thematic information on individual subjects.

Point 1) Programme of measures

The RCA expectation is to have a review on how well WFD policies are implemented into physical measures and to have a piece of advice on how the PoM can be improved, specifically in relation to Eutrophication and Hydro morphological measures.

The review on "Programme of measures" (PoM) of the second cycle of River Basin Management Plan (RBMP) was done by the RE through some draft documents examined before the mission and, in particular, during the mission through interviews and direct questions.

At first he RCA described the national system of the competent authorities ,related to the field of waters.

Then, the RCA illustrated the POM, the conditions of the District, the prioritization of the measures, and the classification concerning “administrative” and “physical” measures. In general, there is a prevalence of “basic” on “supplementary” measures.

The Programme of measures has the following characteristics:

Strengths:

1. The WFD policies are in general correctly implemented into physical measures, in relation to the physical context.
2. It is well known that the Baltic Sea is suffering from eutrophication, and in South Baltic Water District the measures related to this is priority topic seem to be very well declined. In particular, the RCA has shown an information model, very analytical, in order to evaluate the level of eutrophication and the need of nutrient reduction in every single water body. The RE have visited on the site, in particular, one coastal water body and they have considered that there might be a significant effect on the Swedish water bodies, due to the water coming from the sea, which has high concentration of nutrients. So it is possible to affirm that the PoM is facing in a pertinent manner the priority of eutrophication in relation to internal pressures, with a clear and territorially referred vision.
3. An analytical information model can individuate where are the water bodies in more critical situation, and the PoM foresee the necessity of nutrients reduction for each WB.
4. In relation to anthropogenic pressures on eutrophication, the RCA made clear that the critical condition is linked to the fact that many constructed areas are very spread out in the territory, and so they are not connected to sewage system.
5. According to hydro morphological measures, the RE have made a visit of a surface water body (Binga), in correspondence to a little dam realized for a water mill; it was present a fish ladder to preserve longitudinal continuity, perfectly inserted in the natural context. The site was as well suitable for people fruition and in fact is frequented by fishers, and so it represents a good example of coexistence of water utilization, free fruition for the collectively in the respect of ecological regime. More in general, the analysis of RCA is showing that many dams, especially to provide water to hydropower plants of little dimension, are causing sensible effects, without appreciable benefits in terms of energy production. RE consider that PoM correctly foresees the priority of the improvement of rivers continuity in correspondence of dams.
6. the RE consider that the PoM includes good measures for the realisation of ecologically function riparian zones; the RCA and other participants have shown practical examples of project to realize according to these measures.
7. RCA has focused that 90% of wetlands disappeared, and so many measures of the PoM are related to the protection and the reconstitution of wetlands.

Recommendations:

1. The RCA has confirmed that, in general, eutrophication is increasing on the coasts and decreasing in the internal areas.; in consideration of nutrients coming from Baltic Sea, it is important to strengthen international cooperation, so that all the Member States and all the Countries which have environmental pressures on the Baltic Sea reduce pollution
2. the RCA has explained that according to the 676/91/CE Directive, the individuation of Nitrates Vulnerable Zones has been made in a significant percentage of the basin; it is important that the periodical revision of NVZ's is going on periodically, according to the Nitrate Directive and in an integrated view with the PoM of the RBMP
3. According to the RBMP pressure analysis, local administrations and municipalities should consider with attention their strategies in land planning and in the improvement of sewage system, so not just to reduce the tendency to eutrophication, but - more in general - to contribute to preserve surface waters and ground waters from pollutants.
4. The RE consider that, in future, the analysis of hydro morphological pressures on surface water bodies may be more improved, also in relation to river morphology in general, and in particular in the portions where artificial rectifications may cause ecological problems.
5. The RE notice that measures for the protection and/or the reconstruction and restoration of wetlands are very important, at the same time they suggest to enforce them in a whole policy both of environmental protection and of adaptation to climate changes.
6. Another important criticality is the drinking supply, especially in some areas of the Basin. RCA has explained that the lacking of rain for long periods has caused a critical situation in many areas, and in particular in the isle of Holand, that has been visited by the RE. The experts have visited, as well, the area in correspondence of a ground water body (Vassmolosa), where is practiced the artificial recharge of aquifers. The groundwater body is in fact significantly exploited to provide drinkable water to the urban zone of Kalmar. In preparation of the next RBMP, RE suggest to the RCA to improve the knowledge of the quantitative status of groundwaters and to enforce in the future PoM all the measures to prevent the excessive exploiting of aquifers for every use.
7. The competent Swedish authorities should verify the situation of agriculture, since at the moment the laws are foreseeing the permit just for high catchments: the future PoM might be accompanied by a review of legislation in the sense of foreseeing the permit for the generality of water catchments, with pertinent procedures in relation to the importance of the catchment. The protection of wetlands, as well, probably would take advantages from a better regulation of the water catchments.
8. Considering the current level of investment for implementing the PoM, it seems that there is an important gap between investments evaluated for expected measures, and real annual observed public and private investment :

- 700 millions SEK/year for evaluated measures depending of public financing ,compared to 100 millions SEK really invested pro year ,
 - 3500 SEK/year for evaluated measures depending on private financing ,compared to 750 SEK/year really invested .The Gap seems particularly important in the field of agriculture (see part 4 rural development program), but also in the field of diffuse pollution related to settlements not collected to sewage systems. (estimated to more than 800.000 inhabitants)
9. Experts could not have a precise evaluation of the situation for investments really realized in the first PoM, but RE think that particular attention should be drawn to this question in the second PoM, related to risk of not being able to achieve objectives.

Point 2) Water Information System Sweden(VISS)/Data and information sharing :

The RCA expectation is to have a review and an evaluation and future recommendation on the work with “Water Information System/Data and Information sharing” – how well do the district use WFD data as a basis for a decision support system at local, regional or national level?

Strengths:

1. No organized water information system was available in the year 2005, data being updated at the county level (21 counties = 21 different management systems)
2. Decision was rapidly taken to built up national Water Information System Sweden (VISS). WFD standard was completely taken in count for structuring, and for the construction of the VISS, making possible to ensure the reporting to the commission in form and tame table that was prescribed.
3. VISS is a friendly using system, which permits as well to constitute a network between all users, share data and information between stake holders and administrations, and its fully opened to public. More than 1% of Swedish population was visiting VISS in 2013. VISS is related to Wikipedia for permanent and sharing and updating more general information’s.
4. VISS permits data consultation, EU reporting, but is also used as a decision support system, and cooperation tool between all water users.

Recommendations:

1. The VISS is only “collecting” all available data’s coming from very different actors, each one producing them with his own standard and way of referencing. 19.000 monitoring points exist in all Sweden, and among them more than 3.000 only for South Baltic district. Very few part is produced at a national level, most of the data’s being produced by counties, municipalities, industries, associations. Standardization of quality procedures, for production, validation of the data’s would be now very useful to ensure more sturdy data system. Also common reference system should be defined, and given to all producers.
Very few data are actually available about water quality for pesticides, and water use from agriculture (only very important catchments in agriculture are submitted

to permit). Monitoring of use of pesticides, and their impact on water quality should be developed

Point 3) Monitoring and characterisation of ground waters / comparison with other countries.

The RCA expectation is to have an evaluation and future recommendations on the monitoring and characterization of available groundwater resources at the water district. More precisely the question was on the use and protection measures of groundwater bodies and whether groundwater resources management in the water district is done at reasonable level by use of appropriate monitoring, groundwater models and assumptions.

Almost half of groundwater aquifers in Sweden are composed by glacio-fluvial deposits. These are relatively small, thin and shallow aquifers located in fractured crystalline bedrock and composed by sands and gravels. Groundwater flow in these aquifer formations varies from fast (100 l/d) to moderate (10 l/d).

During the visit, the RE had the opportunity to visit an important esker aquifer body at Nybroasen, near Kalmar. This Esker aquifer covers about 25 Km² and part of its groundwater resources are used for drinking water supply of the Kalmar municipality. Artificial recharge is used in order to sustain the renewable groundwater potential.

Strengths and Threats:

1. Groundwater in the RCA water district is of very good quality and is a precious source for drinking water supply.
2. Groundwater aquifer resources in the region are relatively small and limited in the horizontal and vertical space, because of the glacio-fluvial origin of aquifer formations.
3. Groundwater resources in Esker aquifers are vulnerable in terms of quantities due to direct connection to surface waters and the precipitation amount. Because of a recent two-years limited rainfall, groundwater resources in the south east part of the region are at risk not only of depletion but also of contamination by surface pollutant sources and eutrophication.

Recommendations:

1. Although monitoring of groundwater level in the production wells for municipal water supply is regular it is not clear who is responsible for monitoring and maintenance of a data base for groundwater use and evaluation of groundwater quality.
2. Individual groundwater drillings for water supply and the amount of groundwater used for irrigation should be registered using a reliable data base.
3. Following the WFD and good practices of other European countries, like France (BRGM) and the Netherlands, data bases, relevant indicators and models for groundwater resources availability, groundwater use and groundwater quality at the district level should be developed and maintained with the contribution of local, regional and national authorities.

4. In order to preserve groundwater resources and the sustainable management of groundwater a national policy for costing and pricing of groundwater should be developed, especially for irrigation.
5. Groundwater pricing externalities, like environmental costs and the cost of non renewable groundwater resources should be evaluated according to WFD.
6. Desalination plants as those under consideration in Öland island should be considered only as an ultimate and absolutely necessary solution by taken into consideration not only the water pricing but also environmental impacts from saline wastewaters and the CO2 contribution to climate change, depending on what source of energy is selected.

Point 4) Coordination of Rural Development Plan with agricultural measures / comparison with other countries.

Rural development program for Sweden is a tool for developing rural areas. Objectives concern to foster the competitiveness of agriculture, to ensure sustainable management of natural resources, and achieve balanced territorial development of rural economy and communities .The total budget for the 2014-2020 period, is 4.3 billion of euros, coming 60% from State funds and for 40% from EU funds. A part of 20% of this plan is concerning environmental measures and with a special focus on nutrients, varied agriculture landscape and water and drainage. According to this plan, farmers can benefit grants for improving measures related to the POM, especially for preserving and enhancing ecosystems dependant on agriculture and forestry.

RCA expected recommendations on how to improve the coordination and implementation of the Rural Development Plans with the agricultural measures in our Programme of Measures.

Strengths:

1. Water Authority is really convicted of major importance, of being successful in improving PoM related to agriculture as well for WFD objectives, as for sustainable water resources management in context of water scarcity related to climate change.
2. Representatives of agriculture, that experts could interview (but only by web..) has expressed that in Sweden there is a high environmental consciousness among majority of the farmers.
3. An important restoration project concerning the river Em ,which is the southeastern Sweden's largest water course (240 km between Bodafors and Kalmar), was presented to experts. Main goals for this river are concerning hydromorphology, restoring continuity, but also strong reducing of nutrient coming from agriculture. It was explained that the project has been made with a wide consultation of stakeholders, including farmers. Complete contribution of Agriculture to the project could be obtained, and really became a driving force of the project.

Recommendations:

1. Water Authority is not directly in charge of having direct contacts with agriculture representatives for improving their contribution to the PoM. It could be useful to investigate if largest capacities should be given to them, in coordination of the action of the local authorities
2. During exchanges with SWAM, and representatives of farmer board, it was reported that there is an important gap between PoM evaluation for agriculture expected for 45 million euros pro year, for all Sweden , and available fund in the rural development plan, limited to 10 million euros, pro year for all Sweden. Therefore, Counties and Municipalities have foreseen further resources in addition to RDP funds and this can help integrated projects. Further evaluation of annual level of investment that is needed for agriculture should be improved.
3. Rate of financing measures in agriculture seems to be significantly high, between 50 and 100%. It should be improved if grants could be modulated related to efficiency of measures and eventually profitability.
4. Opportunity of developing control of effective reduction in using nutrients seems not to be effective in major cases for agriculture. Measures for enforcement of controls related to measures in agriculture could considered especially if grants are allocated.

Point 5) Economic analysis at district level and evaluation of environmental costs and values

The RCA intends to verify through the peer review if at district level is Economic Analysis can be considered appropriate for making good policy's based on environmental costs and values. RCA has besides expressed the expectation to compare his methods and results with other countries.

Strengths:

1. RCA has conducted an appropriate Costs/Benefit assessment
2. The Peer-review has given the opportunity to make a comparison between different European Countries regarding the way to apply the Economic Analysis on PoM and it has contemplated the deepening of knowledge, in particular, of the French approach.

Recommendations:

1. In the Third Cycle of RBMP it should be improved the recovery costs principle, with more specific measures, and the policies for water pricing.

2. In the general context of Swedish legislation, agriculture needs permits, and so is paying the fees for water use, just over very high catchment. This may be a path of improving, for a whole application of “users pay principle”, and this seems to be important in consideration of the general lacking of water: as an adaptation to climate variation, should be improved a better estimation of water needs, especially in agriculture.
3. In the Second Cycle of RBMP, 10-15% of measures are in this moment sure to be financed; during the application of this cycle it is suggested to verify the progressive degree of financing.
4. The progressive application of the economic principle “water pricing” might be a instrument to drive stakeholder towards a better use of water and the introduction and/or strengthening in their activities of efficiency measures for the best use of the water cached from WB, especially in case of risk of not fulfillment of the objectives for catchment pressures.
5. The Swedish Water Authorities don’t have a proper budget to implement the PoM; in the French model, it has been explained that it is very important for the Water Agencies to have the chance to support the implementation of measures with a budget that can be substantially founded on policies of water pricing. Probably this aspect might be addressed in general terms in the legislation of the member State, according to the Article 9 of WFD.
6. For the future, the action of the Water Basin Authorities needs to be possibly enforced by a general revision of Swedish system of water pricing and this, in comparison with other experiences in Europe, is a process that need time, step to step implementation and perhaps a new “cultural” approach. The economic instrument, in fact, is not to be seen as a financial instrumental to improve the budget for PoM financing, but first of all as an instrument to discourage water wasting, to encourage the adequate use of water, the water efficiency in every use and the consciousness of the real value of water.

Point 6) Objectives and exemptions : evaluation and future recommendations.

RCA has expressed the expectation to receive Evaluation and future recommendation of our work with “Objectives and exemption” and advises on improvements.

Strengths:

1. Objectives and exemptions have been fixed in a rigorous way, the documents let understand a strict adherence to WFD
2. the choice not to appoint any exemption for Nature2000 Sites seems to be very important, and this was openly declared in the interviews as a strategic choice of preservation of N2000 sites, for driving the stakeholders to keep particular attention on it.
3. The individuation of HMWB was made in 1% of cases of WB and this is always under the strategy to push the stakeholders to operate in the direction of reaching the environmental targets on waters. Regarding GEP,

4. there is an ongoing project with SWAM for a precise definition of GEP

Recommendations:

1. in the further cycles of RBMP, an improvement of monitoring, especially for quantitative aspects, might furtherly ameliorate the precision of the individuation of the objectives and of the exemptions
2. the Water Boards may offer an optimal context for the illustration and information of the objectives for the WB included in the board and for a direct information to citizen about timing, exemptions and degree of implementation of the measures in the direction of achieving the targets.

Part 7) - General recommendations derived from the exchange.

- It seems very important to the RE that the competent Swedish authorities approve the RBMP as soon as possible.
- Even if the RBMP of the South Baltic Water District indicates the consciousness to ameliorate the application of the DPSIR model, the relationship between the measures and the *drivers* seem in general well structured in the plan; surely, the complete implementation of DPSIR model in the third cycle of RBMP will contribute to a even better effectiveness of measures.
- In the next cycle it should be accurately assessed the introduction of a large percentage of measures without a clear and certain indication of the source of financing, especially where it might be unreasonable to reach the financing in the period of application of the plan.
- The RE have the opinion that in the governance system of Sweden the level represented by the Water Authorities is crucial since it is the essential link between the State level, which has the competence for legislation and general policies, and the local level, where Counties and Municipalities have many operative attributions for the environment; it seems very important that the role of the Water Authorities could be strengthened, in order to implement concrete actions at local scale in full coherence with general water policy and to overcome the fragmented view of local governments; only a vision of river basin can reach durable results in water policies.
- Measures regarding Climate Change seems not enough having been integrated in the POM , with sufficient relevance according principles for WFD implementation as described in CIS guidance No24. For example RBMP enforces developing water reuse, but POM doesn't identify any measure related to this recommendation. Considering recent strong degradation of surface and underground water, because of last years observed scarcity it is recommended to complete POM ,with a special chapter regarding climate change and also specially related to drinking water supply. Also, municipalities should be involved in contributing actively to define measures related to their

own difficulties for water supply as well in the present, then also for defining future water resources.

- Baltic Sea has strong decrease of quality, related to high concentration in nutrients and also heavy metals. Today very few species of fishes remain in the sea, so that achieving better quality is not only an environmental, but also an economic issue. Main part of south Baltic District coastal water bodies has bad quality related from nutrients coming from Baltic. In this context good status recovery is fully dependent on capacity of having efficient common work between all countries surrounding the sea, for strong reducing nutrients inputs in the sea. Action plan for Baltic sea cooperation has been defined in 1978, but resolutions are not really bounding for member states. RE have the opinion that cooperation on Baltic sea should be strengthened, in the field of pollution reduction. Maybe, model of way of cooperation for implementing WFD, on some European rivers, like Rhine or Danube could be usefully taken in consideration.

Part 8 - Other aspects:

- It would be very important to implement the positive role of the Water Boards, and try to extend this approach in other sub-basins. Under the coordination of the Basin Authority, it may be enforced the mutual exchange of experience and best practices between Water Boards, if possible in a national and international perspective.
- The Water Boards may offer the chance on one hand to put into concrete the general planning and on the other to introduce in the PoM more and more measures inspired by the actions lead at local scale.
- In the further RBMP cycles, a good Strategical Environmental Assessment (SEA) can be not just a procedure of evaluation, but also of building of the Plan. SEA might in particular ameliorate the integration between WFD and other Directives, especially with 128/2009/CEE on the sustainable use of pesticides, 2007/60/CEE and besides with energy policies; finally, SEA might contribute to verify the degree of financing for measure and ameliorate the individuation of all the several funding sources which can be present at every government level.

Conclusions and final considerations

- The RE are of the opinion that the Peer-Review has had in general a positive outcome. It has been held in a relaxed and informal approach that allowed to operate an serious, objective and in-depth comparison.
- The composition of RE team has given the further opportunity to observe the policies on water in a Scandinavian Country by experts coming from contexts different for culture, environmental conditions and legislation; nevertheless, the review has shown that a common implementation strategy on water is going on and improving; some difficulties, such as the complete application of the article 9 of the WFD, seem to be in general felt in all the countries

interested by the review; some best practices, such as regarding the participation of citizen and stakeholders in the water policies processes, are on the other hand surprisingly similar in different Basin Authorities and in different Member States.

- This seem to be one encouraging common step that European Citizen are currently making, in the sense that the reaching of the environmental targets should not be just the “mean” of the process, but its most noble “aim”: to ameliorate the water in European Water Bodies, so to ameliorate the life of European Citizens.
- The exchanges during the review showed that many fields of further technical exchanges could be developed between Swedish districts and Italian, French, or Grecian districts: pollution reducing modeling, climate change measures, protecting underground water from diffuse pollution, governance for river basin management at a local level, economic analysis , ecosystemic services assessment,...
- General evaluation from the Commission ,of member states performance for implementing WFD, takes place with consultants, and in a process that does not involve the districts, neither any national experts. Comparatively, the peer review process, permits more direct and constructive exchanges on experiences, and difficulties .In this way it appears, as a more win/win process, and generating very positive exchanges within the basin authorities.

Summary in 15 lines of the report to be included in the overall Peer Review project report:

According to the expected results from the RCA the review focused on , Programmes of measures ,Water information system ,ground waters, coordination between agriculture measures and rural development plan ,economic analysis ,and objectives and exemptions.

River Basin Authority of South Baltic has made the RBMP and the POM on time. Objectives and exemptions have been fixed in a rigorous way according to WFD principles. The POM includes good measures for achieving quality objectives, but for a lot of them focused on drinking water, and in this moment ,only 10-15% of measures are sure to be financed, especially in fields of agriculture related to national rural development plan. Measures related to climate change should also be completed. Water Information system (VISS) had been build up in a short time and appears as very effective for reporting, decision-making, and also cooperation between water users. However, data should be completed ,particularly in field of quality for pesticides . Related to strong drought, observed ,the two last years ,some measures for information of population about parsimonious water use could also be included. (using Water information System?). Considering necessity of restoring ecological continuity, and high grade of river equipment with more than 2000 mills, opportunity of developing electricity production ,with very little mills should be better evaluated.

Additionally the reviewers made also some comments on a more general level. During the process several possibilities to develop further cooperation between Sweden and Italy ,France and Greece were identified, for example in modeling, underground water protection and reducing land farming pressures.

During all the review exchanges with experts took place in full transparency, and all questions could be cleared.

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