Agriculture

European Water Stewardship

Pilot studies 2011
EWS system

The European Water Stewardship (EWS) is conceived with the focus on water sustainability at river basin level, as water users agree that they share river basins in much the same way as they share sectoral, national or regional concerns. The EWS includes a standard and an evaluation system that makes “business sense” for adherents; mitigating physical, regulatory and reputational risks; and offering tried-and-tested steps to secure water availability in future.

The EWS addresses water use performance regarding 4 principles:
- Principle 1: Achieve and maintain sustainable water abstraction in terms of water quantity.
- Principle 2: Ensure the achievement and maintenance of good water status in terms of chemical quality and biological elements.
- Principle 3: Restore and preserve water-cycle related high conservation value areas.
- Principle 4: Achieve equitable and transparent water governance.

EWS Principles

1. Sustainable Water Abstraction
2. Good Water Status
3. High Conservation Value Areas
4. Equitable Water Governance

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I. Introduction

The implementation of the European Water Stewardship (EWS) standard has been tested on-site in different sectors, to:

- Further develop the EWS with focus on its applicability on-site and its appropriateness of contents.
- Evaluate the on-site performance of the pilot organization, regarding the sustainability of its water management, according to the currently available draft evaluation scheme. This evaluation scheme is still under development. Outcomes of the on-site tests can therefore not be considered and communicated as approved certification results.

This report summarizes the outcomes of pilot tests carried out in the agricultural sector.
Please refer to “Pilot studies 2011 – Industry” for information on the pilots undertaken in the industrial sector.
2. Summary and next steps

In order to approve the European Water Stewardship (EWS) standard’s applicability on-site and its appropriateness of contents with regard to agriculture, pilot tests were carried out in 10 farms. Pilot farms were spread over Europe, covering different climate types and regions with different levels of water risk.

Outcomes of the pilot studies in agriculture

When it is well adapted to the farms’ size and type, the EWS supports to align the different water-linked activities within a farm and to set right targets for short and long-term water management. The EWS is considered as useful tool for public transparency and communication of the sustainable water performance by single farmers or their associations.

1) Evaluation of the on-site performance of pilot farms according to the requirements of the EWS standard.

- How efficient is the pilot farms’ water use?
- Are alternative sources being used?
- Is there a regional or river basin wide cooperation in place?

The EWS is considered as strong support to improve the water management performance of farms, since all relevant aspects of their water management are covered. Even under highly regulated conditions and on farms with high developed water management, the EWS provides added value by giving a new, comprehensive and far-reaching view on the sustainability of the water management performance at farm and at river basin level.
The major findings regarding the water management performance of the pilot farms are:

- **Water abstraction**: A more continuous monitoring and reporting of water abstractions and water use for irrigation is needed, especially in regions with water stress and for those sources where the legal permit gives no maximum abstraction rate. Pilot farms were generally aware of the sensitivity of their water sources, and efforts were made to use alternative sources. Still, higher awareness and more information is needed to minimize farming impacts on the water availability and environmental flows in the river basin.

- **Water status**: In general, the reporting and classification of priority substances, main pollutants and specific pollutants needs improvement. On the other hand, several measures are in place to reduce negative impacts on water quality, e.g. implementation of buffer strips, discharge of waste water to water treatment plants or a shift to farming systems with reduced input of chemicals. But also in this case, higher awareness and targeted measures will significantly reduce the impact on the water resources in terms of eutrophication, leaching and run-off. Analysis of sensitive farming areas, e.g. for leaching, is so far not available at these farms but could contribute to a more differentiated farming practice for the benefit of water resources.

- **High Conservation Value (HCV) areas**: Farmers claimed the absence of HCV areas in the vicinity. Therefore, maps were established to visualize the presence of such areas of environmental, social or cultural concern. The information needed was publically available.

- **Water Governance**: Generally, pilot farms have measures in place to reduce water losses and to optimize water use and the use of other resources, e.g. energy or soil. However, an exhaustive and integrated water resources management strategy should be developed on all farms. This major component of water governance is considered – even for small farms – as indispensable tool, to define the farm's water management status and to show the ways ahead towards improvement.

According to the current evaluation, no pilot farm fully complied with the requirements of the EWS standard. Pilot farms received as major outcome an exhaustive analysis of their operational water management performance and the referring improvement points. The pilot farms can use the evaluation results as basis to adapt and develop their water management strategy.
2) Feedback of the pilot farms regarding the applicability and the added benefit of the EWS system on farms.

- Are there indicators that are only applicable in water scarce regions?
- What can an EWS audit demand on farm level?
- Is EWS useful to raise awareness?

- No indicators have been identified as being exclusively applicable in water scarce regions. This confirms the validity of the EWS standard on a wide scale.

- An important outcome of the pilot farms is the challenging implementation of the EWS standard requirements at individual farm level. The EWS standard requires reporting that has to be established on most small enterprises to demonstrate their compliance. A suitable implementation of EWS in agriculture is therefore considered to be at farmers’ group level, in which the farmers association or cooperative is playing a coordinating role. The contribution of entire farmer groups to an improved water management in the river basin will be more effective. Furthermore farmers ask for direct practical support and guidance as to water reduction strategies or multi-functional measures, which can be elaborated in water management trainings.

- Whether or not EWS implementation results in increased farmer’s awareness towards sustainable water management will have to be monitored on continuous basis. It needs to be verified if the provided response strategies have been implemented or other measures have been taken to improve their water management performance.

Next steps for European Water Stewardship

Opportunities, needs and open points regarding the EWS standard development and next steps for future pilot farms.

- What are the next steps for successful EWS implementation in agriculture?

In order to ensure the access of the EWS system also to small-scale farmers, an EWS group certification scheme will be established and piloted, where the farmers’ group is coordinating and internally monitoring the Standard implementation and the corresponding response strategies. It is crucial that the farmers receive coherent and exhaustive training on the content, the requirements and the goal behind each indicator of the EWS. Also sufficient training of auditors is key as well as good cooperation with the farmers’ association. A training program on “Water Stewardship in Agriculture” will be set up by the EWS in cooperation with farmers associations and other experts.

Concretely, the next steps for the EWS have been defined as to:

- Develop and pilot test a group and multi-site certification scheme.
- Raise the benefits for a farmer by giving direct practical advice and a concrete training scheme.
- Monitor the benefit of collaboration between agriculture and other sectors on river basin level.
3. Pilot Studies

Pilot farms’ characteristics

**Spain (1 pilot)**
- Olive oil production (irrigated).
- Located in the river basin Guadalquivir.
- With support of DESIRAS (www.ewp.eu/activities/desiras/).

**Belgium (2 pilots)**
- Open field vegetable production (irrigated).
- Located in the Leie river basin.
- With support of RISE Foundation (www.risefoundation.eu).

**Germany (5 pilots)**
- Conventional and organic farming of different field crops (irrigated and non-irrigated).
- Located in the Elbe river basin.
- Within frame of a multi-disciplinary research project on sustainable land management (www.pilotbetriebe.de).

**Cyprus (2 pilots)**
- Organic production of herbs and potatoes (irrigated).
- Located in the river basin district Cyprus.
- With support of DESIRAS (www.ewp.eu/activities/desiras/)
Part I: Evaluation of on-site performance of the pilot farms

Performance of pilot farms ranges from region to region and according to farming objective. Based on the outcomes of the pilot studies, pilot farms received a list of strengths and major improvement points to reach full compliance with the EWS standard requirements.

Summary of major strengths and improvement points for pilot farms

<table>
<thead>
<tr>
<th>Principle 1</th>
<th>Achieve and maintain sustainable water abstraction in terms of water quantity</th>
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<tbody>
<tr>
<td><strong>Major strengths</strong></td>
<td>- Use of alternative sources for irrigation (e.g. captured rainwater).</td>
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<tr>
<td><strong>Improvement points</strong></td>
<td>- To monitor the abstraction volume on (at least) monthly basis.</td>
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<td></td>
<td>- To evaluate the water sources’ sensitivity.</td>
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<td>- To assess the impact of the abstraction in sensitive periods.</td>
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<th>Principle 2</th>
<th>Ensure the achievement and maintenance of good water status in terms of chemical quality and biological elements</th>
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<tr>
<td><strong>Major strengths</strong></td>
<td>- Optimized use of inputs.</td>
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<tr>
<td></td>
<td>- Reduced inputs in organic farming systems.</td>
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<tr>
<td></td>
<td>- Establishment of buffer strips.</td>
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<tr>
<td><strong>Improvement points</strong></td>
<td>- To fully report and classify all used priority substances, main pollutants and specific pollutants.</td>
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<td></td>
<td>- To identify vulnerable areas at the farm.</td>
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<td>- To estimate the impact on potential destinations and define actions to prevent impacts.</td>
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<th>Principle 3</th>
<th>Restore and preserve water-cycle related high conservation value areas</th>
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<tr>
<td><strong>Major strengths</strong></td>
<td>- Maps indicating high conservation values are available as legal requirement at regional level.</td>
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<tr>
<td><strong>Improvement points</strong></td>
<td>- To describe the impact on protected and high conservation value areas.</td>
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<th>Principle 4</th>
<th>Achieve equitable and transparent water governance</th>
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<td><strong>Major strengths</strong></td>
<td>- Use of grey water for cleaning of farm equipment.</td>
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<td>- Closed washing system for vegetables.</td>
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<td></td>
<td>- Investment in more efficient irrigation techniques.</td>
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<tr>
<td><strong>Improvement points</strong></td>
<td>- To raise water use efficiency by water recycling, higher water savings and reduction of water losses.</td>
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<td></td>
<td>- To identify clear procedures to handle accidents.</td>
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<td></td>
<td>- To communicate internally and externally on sustainable water management.</td>
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</table>
In general, pilots performed better in Principle 1 “Achieve and maintain sustainable water abstraction in terms of water quantity” and Principle 4 “Achieve equitable and transparent water governance”.

The main improvements are necessary for Principle 2 “Ensure the achievement and maintenance of good water status in terms of chemical quality and biological elements” and Principle 3 “Restore and preserve water-cycle related high conservation value areas”.

“Implementing the improvement points will deliver an advantage for the whole region because a lot of water will be saved.”

“From now on, we will keep records of water use and production volumes to be able to compare the efficiency of implemented measures.”

The figure below discloses the final scoring per principle. This scoring can be used for benchmarking the farm’s water performance.
Part II: Response strategies

Pilot farms received an exhaustive analysis disclosing major improvement points with regard to the sustainability aspect in their operational water management. To improve these critical points, tailored response strategies are defined which take specific conditions in the river basin into account.

The response strategies established for the pilot farms cover:

**Principle 1: Achieve and maintain sustainable water abstraction in terms of water quantity**
- The abstracted water volume and the water used for irrigation over time needs to be monitored and reported. Additionally, farmers need to know if and when sources are sensitive, such that less sensitive sources can be addressed for water abstraction.
- Farms need to define a maximum abstraction volume per source - if not provided by authorities.

**Principle 2: Ensure the achievement and maintenance of good water status in terms of chemical quality and biological elements**
- For all potential polluting substances applied, an up-to-date and complete record needs to be established, indicating the number and volume of the applications with the indication of the type of pollution and the potential sources inducing the pollution. Also manure needs to be taken into account.
- The irrigation water needs to be analyzed and monitored in terms of quality to exclude accumulation of substances due to recycling.
- Farmers need to identify sensitive areas at their land, with regard to exposed risks for water pollution. When sensitive areas are identified, optimized culture systems need to be established.

**Principle 3: Restore and preserve water-cycle related high conservation value areas**
- HCV areas need to be involved in all farm decisions based on the given actual and future protection targets.

**Principle 4: Achieve equitable and transparent water governance**
- Each farm needs an internal water management strategy to support the implementation of targeted actions. It needs to include:
  - A procedure for an optimized and integrated management of water and other resources.
  - Preventive measures to mitigate impacts of water use.
  - Applicable and targeted best management practices.
  - An action plan for potential accidents – also at farmers’ group level and in cooperation with the river basin authorities.
  - A procedure that allows monitoring the achieved improvements on long term.
- Active involvement of farmers’ groups in river basin activities is needed to represent farmers’ benefits and needs for sustainable water management.

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EWS Background

EWS is the integrative system for business and agriculture to assess, verify and communicate sustainable water management practices. It embodies the collective effort and know-how of water users in agriculture and industry. The EWS follows on the Water Vision for Europe by defining a system of clear steps towards sustainable water management at operational and river basin level.

European Water Stewardship provides an applicable system to change the behaviour and practices of all water users towards sustainable water management. The EWS:

- Initiates private actions with independent guidance
- Provides positive incentives for sustainable water management
- Helps companies to communicate its successful implementation
- Achievements at operational level, and
- Supports existing legal processes in the European Union.

EWS Piloting Partners:

[Logos and names of the partners]
European Water Stewardship (EWS) with support of RISE Foundation DESIRAS Project Universität Bonn

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