

Project no. 4CE439P3

URBAN_WFTP

Introduction of Water Footprint (WFTP) Approach in Urban Area
to Monitor, Evaluate and Improve the Water Use

WP4.5.1

SWOT Analysis Common Index

Appendix No 4

SWOT Analysis Report (WP4.5.2)

Please tick a box, according to your region

Wroclaw

Vicenza

Innsbruck

Lead contractor for deliverable *WP 4.5.1*: alpS

Start date of project: 1 November 2012

Duration: 25 months

Submission date: April 2014

Guidance

1. Please collect the strengths and weaknesses, identified in step 2, using Appendix 2, and list them in appropriate sections “Strengths” or “Weaknesses” in the form of the successive page.
2. Please collect the opportunities and threats, identified in step 3, using Appendix 3, and list them in appropriate sections “Opportunities” or “Threats” in the form of the successive page.

Vicenza Lab

Strengths

- The green water footprint
- The virtual (indirect) water footprint
- The lab's [high/low] knowledge of the virtual (indirect) water consumption profile of inhabitants and organizations
- The [high/low] awareness of inhabitants and organizations of their own virtual (indirect) water consumption profile
- The [high/low] awareness of inhabitants and organizations of their own real (direct) water consumption profile
- The [high/low] competence of inhabitants and organizations in terms of reducing their own virtual (indirect) water footprint
- The measuring system for the virtual (indirect) water footprint
- The evaluation system for the virtual (indirect) water footprint
- The monitoring system for the virtual (indirect) water footprint

Weaknesses

- The grey water footprint
- The lab's [high/low] knowledge of the real (direct) water consumption profile of inhabitants and organizations
- Third level modeling (Model C)
- The lab's [high/low] knowledge of the sewage water generation profile of inhabitants and organizations
- The [high/low] awareness of inhabitants and organizations of their own sewage water generation profile
- The [high/low] competence of inhabitants and organizations in terms of reducing their own real (direct) water footprint
- The [high/low] competence of inhabitants and organizations in terms of reducing their own generation of sewage water
- The measuring system for water distribution
- The measuring system for the grey water footprint
- The evaluation system for water distribution

- The evaluation system for the grey water footprint
- The monitoring system for water distribution
- The monitoring system for the green water footprint
- The monitoring system for the grey water footprint
- The lab's knowledge of the impact of the decisive target groups and stakeholders on the overall water footprint
- The lab's knowledge of addressing and influencing the decisive target groups and stakeholders
- The lab's financial resources
- The lab's specific expertise
- The lab's public visibility

Opportunities

Politics / Legislative

- In the building and urban planning regulation (both for new buildings and renovation) insert the requirement to separate wastewater flows from rainwater flows
- Limit impermeable surface
- Application of regulation related to conservation of water resources (example: do not use private wells, control and monitoring).

Economy / Finance

- Reduce new building construction taxes for projects with reuse water technologies (rainwater)
- Reduce overall taxes following experience of energy regulation
- Ease the access to credit for those public companies that manage water.

Demography

- Stabilize demographic growth

Life Style / Trends / Public Awareness

- Create awareness among students (visit to local plants)
- Better knowledge on water footprint indicators
- More attention to rainwater collection

Technology

- Improve waste water treatment technologies to allow local water reuse

- Improve water saving technologies
- Improve wastewater network

Bio-physical Environment / Ecology (geology, climate, fauna, flora)

- Mitigate runoff of waters that reach bigger water bodies
- Give incentives to use phytodepuration were no waste water networks are available
- Pay attention to the reuse of rainwater

Businesses / Industries

- Reduce/avoid cooling water
- Reuse post treatment water resulted from private water treatment process
- Adjustment and good management of runoff water treatment plants runoff

Threats

Politics / Legislative

- Lack of politic interest in environmetal policies and issues such the ones related to water

Economy / Finance

- Increase new building construction taxes for projects with reuse water technologies (rainwater)
- Increase overall taxes following experience of energy regulation
- Make more difficult the access to credit for those public companies that manage water.

Demography

- More older people leaving in the city

Life Style / Trends / Public Awareness

- Lack of awareness among students
- No knowledge on water footprint indicators
- No attention to rainwater collection

Technology

- Reduce application of waste water treatment technologies to allow local water reuse
- Reduce application of water saving technologies
- Reduce application of wastewater network

Bio-physical Environment / Ecology (geology, climate, fauna, flora)

- Increase built up environment

- Reduce green areas
- Oversue of groundwater

Businesses / Industries

- Increase water pollution to limit or avoid its possible use
- Develop water intensive commercial activities
- Market and communication of water imapctive chemicals

Comments

Activities to implement the SWOT analysis presented in these and other annexes took place in the Vicenza Lab premises during two meetings held on the 29TH of April and the 12th of May 2014. Several stakeholders with direct interest in water management related issues were invited to participate: Municipality of Vicenza (project partner), University of Padova (lead partner), Centro Produttività Veneto (project partner), Acque Vicentine (Municipal Local Water Management company) and Centro Idrico Novoledo (Centre for the monitoring on water related parameters).

Focusing on the first part of the analysis potential strength and weaknesses related to water and water footprint metrics were identified. Three strength areas were highlighted; these are: the actual green water footprint, the actual knowledge and assessment of virtual water related issues. Such strength need to be explained in the specific context of Vicenza. The city has been through several floods in past years; this depends on several reasons such as the maintenance of superficial water bodies but mainly due to the way the city is designed and the extension of the built up area. Reducing green water footprint would potentially result in an increase of the impermeability of the urban area and therefore in flood risks. This risk turn green water in a strength, in fact its measure should be used a sensitive indicator to avoid misleading urban planning. With reference to monitoring and assessment of virtual water, this is regarded as something out of the scope of the lab and therefore this is to be considered not relevant in the Vicenza Urban Area.

Focusing on weaknesses 5 big weaknesses can be identified, these are related to: grey water issue, labs resources, citizen awareness, labs detailed knowledge on water footprint of Vicenza. The issue of gray water is definitely something the Lab has to take care of. Wastewater treatment system and facilities is recognized to be efficient and well-designed in the city of Vicenza, however, the importance of this issue makes it central to local debate. The system could be positively affected by a reduction in volumes to be treated but not by an improvement of waste water quality. The need for bigger resources emerged that is strictly connected to the objective of the labs and the need to develop a detailed model represented by model C. This is in fact the most detailed one that allows a deeper comprehensions of urban water uses, however it requires a lot of data to be collected and managed especially when monitoring performances overtime. The project itself goes in the direction of supporting the coverage of such needs. Last important issue is current citizen awareness that need to be improved in the future in order to achieve better water use performances.

Interpretation

Results of the SWOT analysis allow to identify potential improvement strategies to be implemented in the urban area of Vicenza. Such improvements will be discussed and considered when planning urban water improvement plans within WP5 activities.

Potential improvement strategies are discussed with reference to the 7 area presented within this SWOT analysis.

From a political and legislative perspective, an opportunity will come from the definition of new bindings regulation applicable to buildings and urban planning; moreover, looking at regional regulation, it is important to note that there is a framework to support the conservation of local resources. Working on politics involvement and awareness could therefore contribute to these objectives.

From an economic and financial perspective, more attention related to water issues could result in new public support to the implementation of new and more efficient technologies in buildings. This is achievable through the implementation of the revision of local building regulations.

Working on citizens knowledge on water footprint related issue is recognized to be an important opportunity. The URBAN WFTP project goes in the direction of making people more aware of their water use.

Looking at technologies, several opportunities to improve the water footprint profile is to ease the application of rainwater collection and water saving technologies both in private and public buildings.