

4.4.3 Sewage Systems and users' behaviours representation
Analysis Report

4CE439P3 - URBAN_WFTP

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Analysis Report

1. Introduction

This report is based on data obtained through a questionnaire. This questionnaire was developed by the LP and handed out during the Open Day of the UWFL Innsbruck on 4th May 2014. In total 89 completed questionnaires were handed back, analysed and summarized in this report.

The aim of this questionnaire (see Appendix 1) was to gain information on users' behaviour regarding sewage and waste water.

2. Target Group

The target group were the citizens from Innsbruck. Ideally the sample should represent all strata of educational and all levels of income. However, due to limited resources a representative survey was not possible. Instead visitors at the "Long Night of Science" were asked to fill out this questionnaire. In general the visitors of this event have a high level of education, have an above average income and are open-minded.

3. Current situation on the treatment technologies

The current situation on the treatment technologies can be characterized as state of the art and very efficient. Collection as well as treatment of the sewerage matches the current engineering standards. Especially the sewer system was enhanced and expanded within the last decade causing a significant decrease of CSO events and consequently receiving water quality. In addition to that the wastewater treatment plant was modernized in the years 2012 and 2013 for an improvement of treatment to a level of processing and cleaning of 98% of organic pollutant.

4. Results of the questionnaire

74% of the respondents (see also Table 1) know what happens with their waste water. Imhoff tanks are not common in Tyrol, as there is a modern and well-organized sewage system. 47% of the citizens collect rainwater and use it for watering their gardens. In contrast, 62% neither collect rain water nor do they know where it goes to. Here, 46% presume the wastewater to reach the water treatment plant.

Regarding the disposal of household wastes, 74% deliver their used oils from the kitchen to ad-hoc collection points. In total 61% throw toilet-paper into the toilet, another 22% also mention to dispose tissues in the toilet.

The cleansing agents used for cleaning the house can be separated into a chemical and a biological group. The proportion between those two groups is nearly balanced. 47% use chemical-based products such as ammonia or bleach; while 39% prefer biological products like citric- or vinegar-based products. 99% use less than 1l of cleansing agents a month. The dirty water is drained in the sink by 60% and disposed into the toilet by 33%.

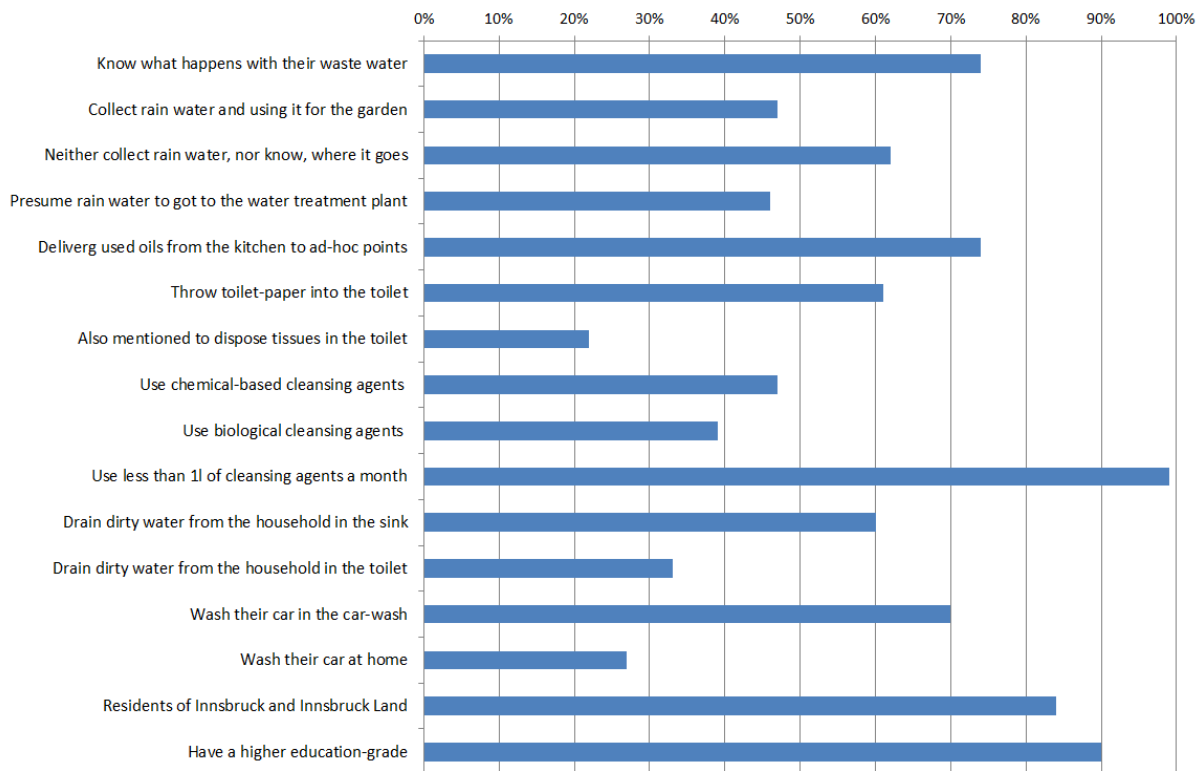
Asking where the people clean their cars, 70% answered that they wash it in the car wash, while 27% prefer to do it at home.

84% of the interviewees come from Innsbruck and Innsbruck-Land and 90% have a higher grade of education such as university-entrance-diploma or finished university.

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Table 1: Results (in %) of the sewage systems and users' behaviour data gathering sheet



5. Interpretation and summary

In general the behaviour of the people surveyed can be described as well-informed, e.g. they know several ways of saving direct water. Also the majority of people behave in an environmental friendly in respect to using chemicals, waste disposal and car-washing. However, there is still the need to further reduce the amount of cleansing agents used at home especially those on chemical basis (e.g. ammonia and bleach). In addition to this, more effort should be put into convincing people to clean their cars in designated washing area, with sealed up concrete floors and separating systems in their waste water drainage.

6. Future needs

Further improvements of the water treatment and sewage system in Innsbruck are not necessary, because the system is on a very modern and efficient level. Regarding the users' behaviour a few points require further improvement. However, one must bear in mind, that these results might not reflect the behaviour of the average citizen and that additional points might need improvement on top of those already mentioned (e.g. chemicals used in households and cleaning cars).

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Appendices

Appendix 1: Sewage systems and users' behaviour data gathering sheet

Fragebogen zur Langen Nacht der Forschung in Tirol, 04. April 2014



Wohin geben Sie das verbrauchte Wasser für den Hausputz?

- in die Toilette
 in den Abfluss
 in den Garten
 auf die Straße
 andere, bitte angeben: _____

Wo waschen Sie Ihr Auto?

- Zuhause (Garage, Einfahrt, Garten...)
 in der Waschanlage
 andere, bitte angeben: _____

Dürfen wir Sie zum Abschluss noch um ein paar persönliche Daten bitten?

Alter: _____

Haushaltstyp:

- Singlehaushalt
 2-Personen-Haushalt
 Mehrpersonen-Haushalt (WG / Familie)

Höchster Bildungsabschluss:

- Volksschule
 Hauptschule / Neue Mittelschule
 Matura
 Uni / FH

Project no. 4CE439P3: URBAN_WFTP

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

Wohnort:

- Innsbruck Stadt
 Innsbruck Land
 andere, bitte angeben: _____

Vielen Dank für Ihre Mithilfe!

Fragebogen zur Langen Nacht der Forschung in Tirol, 04. April 2014



Wissen Sie, was mit dem verbrauchten Wasser ihres Haushalts geschieht?

- Ja
 Nein

Falls ja, wohin gelangt es?

- Klärwerk
 Private Wasserreinigung
 andere, bitte angeben: _____

Falls Sie eine private Wasserreinigung haben, wie oft reinigen Sie sie?

- 1mal pro Jahr
 alle 2 Jahre
 nie

Kennen Sie den Unterschied zwischen getrenntem und kombiniertem Abfluss?

- Ja
 Nein

Falls Sie Regenwasser sammeln: wofür verwenden Sie es?

- Garten, Blumengießen
 direkte, eigene Verwendung
 andere, bitte angeben: _____

Falls Sie kein Regenwasser sammeln: wissen Sie, wohin es gelangt?

- Ja
 Nein

Falls ja, wohin gelangt es?

- Klärwerk
 andere, bitte angeben: _____

Was machen Sie mit verbrauchtem Öl aus der Küche?

- in den Abfluss geben
 in die Toilette schütten
 bei einer Sammelstelle abgeben

Was werfen Sie in die Toilette?


- Essensreste
 Toilettenpapier
 Damenbinden
 Windeln
 Papiertaschentücher
 andere, bitte angeben: _____

Welche Chemikalien benutzen Sie zum Hausputz?

- Ammoniak
 Bleichmittel
 andere, bitte angeben: _____

Wie viele Chemikalien verbrauchen Sie im Monat für den Hausputz?

- weniger als 1 Liter pro Monat
 mehr als 1 Liter pro Monat

Bitte wenden 

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