

The River Torne International Watershed  
TRIWA II Work Report

An internet survey for finding out local people's opinion about  
cooperation in water related issues

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## 1. Introduction

The EU Water Framework Directive (WFD) aims at achieving good status of all waters by 2015. According to the directive, the River Torne is an international River Basin District, and Finnish and Swedish water authorities together fulfil the basic legal demands for cooperation in the Torne River Basin District. This work is part of the TRIWA II project which spanned years 2006-2008. The purpose of the project is to find tools for making future cooperation between different authorities and actors more effective and for facilitating cooperation of all actors in the river basin district. The major objective in the TRIWA II project is to develop commonly accepted outlines for harmonized management of an international river basin district in a northern environment. An internet survey was chosen as one tool for finding out local people's opinion about, and wishes for cooperation in water related issues.

The inquiry was open in the Internet in July-September 2007. Following issues were mapped in the survey;

1. Is information about the decisions and achievements of water management successful?
2. Do the local people want to participate in the decision making in water management? Do they feel that they can influence decision making at present?
3. What is the opinion of the participants about the environmental state of the River Torne watershed? What kind of problems have they recognized in the watershed?

Altogether 272 persons answered the inquiry; there were 68% men and 32 % women. The age-groups 39 –49 years old and 50 –60 years old were the largest age groups; 28,7% and 30,9% (Table 1). There were 65,8 % Swedish and 33,1 % Finnish. In addition, one Estonian, one German and one Norwegian answered. The majority of the participants (62,5%) were inhabitants (Table 2). Summer guests (14,0%) formed the second biggest group. Fishing is the most popular form of recreation (26,8%) in the River Torne watershed (Figure 1). Among the Swedish answerers (28,4 %) it was more common than among the Finnish (22,7

%). Also swimming and boating are popular; 21,6% and 22,2%. In the other forms of using surface waters the majority mentioned that they enjoy watching the scenery. Other activities mentioned were hunting, skiing and snowmobiling as well as using the watershed in teaching.

Table 1 and 2. In the first table the age-groups of the participants are presented. In the second table the relations of the participants to the River Torne watershed are presented (n=272).

Age-groups	%		%
< 17	5,1	Inhabitants	62,5
17-27	7,4	Summer guests	14,0
28-38	15,1	Tourists/Visitors	7,4
39-49	28,7	Working in the area	8,1
50-60	30,9	Others	8,1
> 60	12,9		

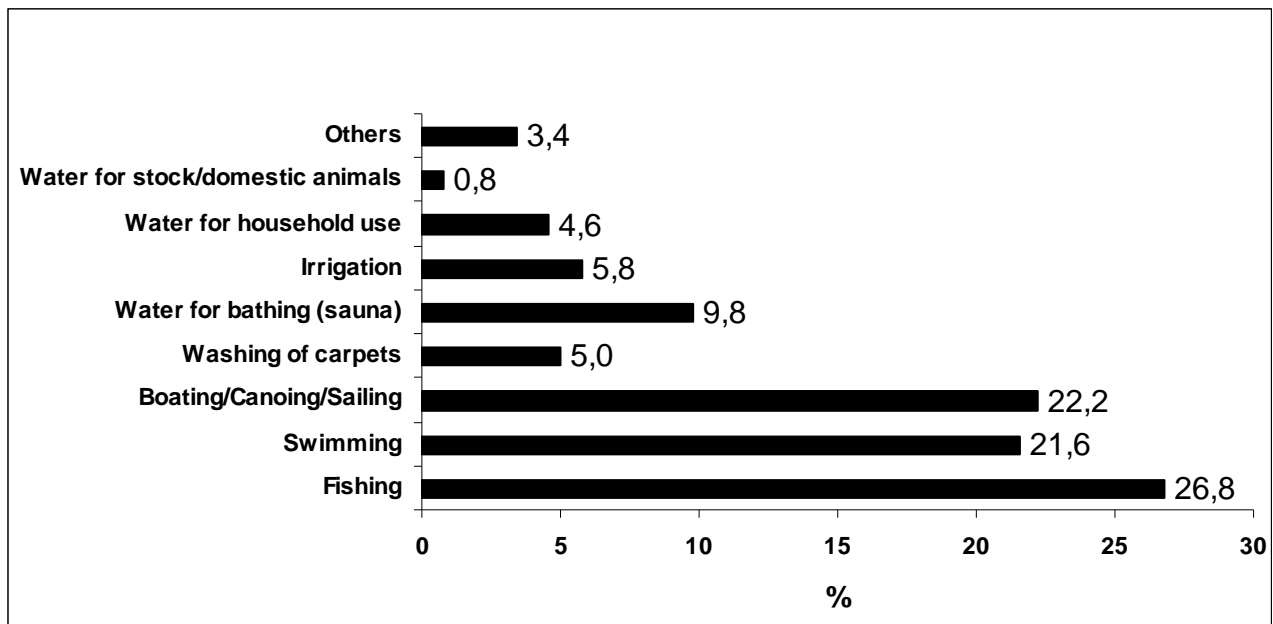


Figure1. The forms of using surface water in the River Torne watershed. The participants had possibility to choose more than one alternative (n=776).

## 2. Results and discussion

### 2.1 Publicity and participation

The majority of participants agreed that the water management in the River Torne watershed should be done in cooperation between Finland and Sweden (Table 3). Especially, the protection of the watershed (30,4%) and the fishing issues (28,8%) should

be discussed in the international cooperation. The answers were not surprising because the River Torne with its tributaries is nationally and internationally unique and valuable water system (Elfvendahl, S., Liljaniemi, P. & Salonen, N. 2006). The River Torne has been included into the Natura 2000 nature protection network both in Finland and Sweden. The river is also one of the last unregulated large rivers with naturally reproducing populations of Baltic Sea salmon and sea trout. Fish issues are under continuous discussion and debate, especially due to the importance of salmon.

Table 3. The opinions about the issues to be handled in cooperation between Finland and Sweden. The participants had possibility to choose more than one alternative (n=694).

	Finnish	Swedish	Together
	%		
Nature protection	29,7	30,7	30,4
Utilization (e.g. power production, water intake to the industry)	17,2	16,5	16,7
Tourism	23,3	23,6	23,5
Fishing	29,3	28,6	28,8
No cooperation	0,4	0,6	0,6

More than 87 % of the participants (87, 3%) wanted to participate in decision making in the River Torne watershed. The most popular forms of participation were Internet (42,9%) or village meetings (21,6%). Internet was slightly more popular form among the Finnish (47,9%) than the Swedish (40,5%). The Swedish (26,6%) favoured village meetings clearly more than the Finnish (11,0 %). The Finnish supported more public hearings (16,4%) than village meetings. On the other hand, the interview was done by Internet. That might overestimate the popularity of this form of participation. However, only 13,5% of the participants had participated earlier meetings; 7,5% of the Swedish and 23,8% of the Finnish.

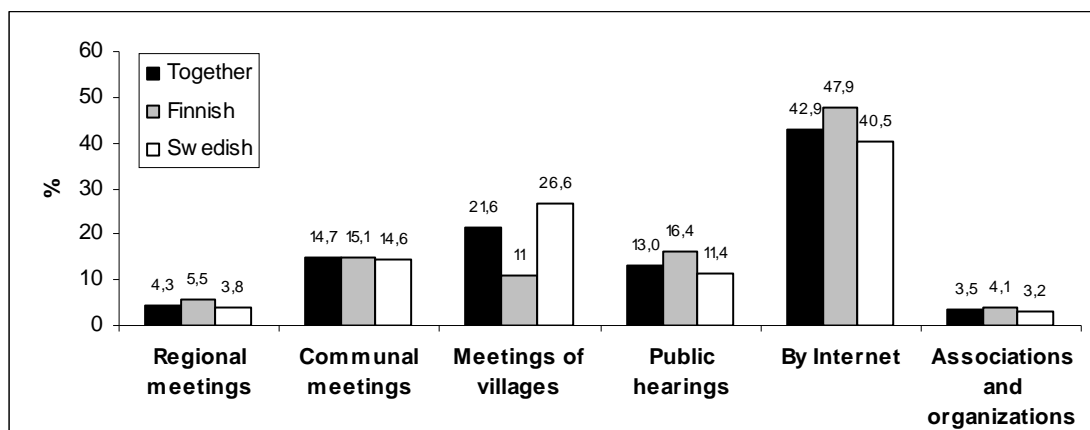


Figure 2. Desirable means of participation in decision making (n=231).

The majority of the participants (66,5 %) did not know who they should contact about the water issues; 71,5% of the Swedish and 55,0% of the Finnish. They hoped for more information about the decisions and achievements in water management. The majority (78,7%) agreed that there is not enough information about these issues. The best sources of information were considered to be the newspapers (38,7%) and Internet (20,9%) (Table 4). The website of Finland's environmental administration ([www.ymparisto.fi](http://www.ymparisto.fi)) was mentioned separately. The other sources were the environmental authorities, universities, different associations (fishing, hunting) and organizations, meetings, the local people, relatives and friends.

Table 4. The sources of information about the decisions and achievements in water management. The participants had possibility to choose more than one alternative (n=473).

	Finnish %	Swedish	Together
Newspapers	37,5	39,4	38,7
Television	14,1	11,1	12,3
Internet	22,8	19,7	20,9
Radio	13,6	11,8	12,5
Workplace	9,2	10,0	9,7
Education	0,0	0,7	0,4
Others	2,7	7,3	5,5

According to the survey, the participants felt that their possibilities to influence the decisions making are not good (Table 5). Even 29,4% of Swedish agreed that the possibilities to influence the decision making are very bad. Half of the participants felt that the local people are heard but their opinions do not affect the decision making. 28,9 % of the participants felt that the decisions are made without listening to the opinions of the inhabitants (Table 6).

It is clear that more information about water issues is needed in the future. The newspapers and Internet are the best ways to reach the local people. Also the meetings are needed in the River Torne watershed. Differences between Finnish and Sweden were observed how the meetings should arrange. Finnish supported more public hearings and Swedish meetings of village. According to the survey, Finnish have participated more to

the recent meetings than Swedish. It might be the reason why Finnish are slightly more optimistic their possibilities to influence the decisions about the watershed.

Table 5. According to the survey, the possibilities to influence the decisions about the watershed (n=258).

	Finnish %	Swedish	Together
Very good	0,0	2,3	1,6
Good	6,2	5,1	5,4
Fair	42,0	35,0	37,2
Bad	42,0	28,2	32,6
Very bad	9,9	29,4	23,3

Table 6. According to the survey, the possibilities to participate in the decision making (n=246).

	Finnish %	Swedish	Together
The decisions are done without the hearing of the inhabitants	21,3	32,2	28,9
The inhabitants are heard but the opinions are not taken into account	54,7	49,1	50,8
The decisions is based on the proposals of the inhabitants and the authorities	24,0	14,0	17,1
The decisions is based on the proposals of the inhabitants	0,0	4,7	3,3

### Environmental state and the human impact

According to the inquiry, 76,5% of the participants agreed that the watershed is in natural state or nearly natural state (Table 7). However, 10,8% of Finnish considered the watershed to be very altered or eutrophicated. In the recent studies, the main parts of the watershed are recognized undisturbed and the human impact is been generally low (Elfvendahl, S., Liljaniemi, P. & Salonen, N. 2006). Water quality has been classified as good in the most part of the River Torne Watershed. However, there are also known areas with poorer water quality, and water basins that are altered due to hydropower production, ditching or other actions.

Human impacts in the watershed were recognized by 46,8% of the participants. The abundant vegetation was considered the most general problem (25,6%). Turbidity of the water (22,2%) and abundance of algae (15,4%) were also found as existing problems (Table 8). The Swedish brought up stronger the turbidity of water in their opinions: 25 % of the

Swedish against 16,7 % of the Finnish. The Finnish (17,8%) were more worried about the slimyness of nets than Swedish (7,4 %). In addition, the participants mentioned individually; rubbish, oil, quality of fish (taste), alterations of currents and sedimentation.

Table 7. According to the survey, the environmental state of the River Torne watershed (n=272).

	Finnish %	Swedish	Together
Natural state	9,6	31,7	25,0
Nearly natural state	41,0	56,1	51,5
Slightly altered/eutrophicated	38,6	11,1	19,5
Very altered/eutrophicated	10,8	1,1	4,0

Table 8. The recognized problems in the watershed. The participants had possibility to choose more than one alternative (n=266).

	Finnish %	Swedish	Together
Turbidity of water	16,7	25,0	22,2
Bad smell of water	5,6	11,9	9,8
Bad taste of water	2,2	8,5	6,4
Abundant vegetation	27,8	24,4	25,6
Abundance of algae	14,4	15,9	15,4
Slimyness (nets)	17,8	7,4	10,9
Fish kills	3,3	2,3	2,6
Someting else	12,2	4,5	7,1

According to the survey, forestry (23,2%), agriculture (20,7%) and the loading from the communities (18,3%) are considered as the major reasons behind known problems in the watershed (Figure 3). Finnish and Swedish weighted the major impacts in different ways. Finnish agreed that agriculture (29,0%) is the major reason behind the problems. Instead, Swedish named forestry (25,0%). According the recent studies, impact from land use is mainly attributable to forestry and agriculture (Elfvendahl, S., Liljaniemi, P. & Salonen, N. 2006). The main impacts from point sources originate from waste water of densely populated areas (waste water treatment plans), scattered settlements and industry.



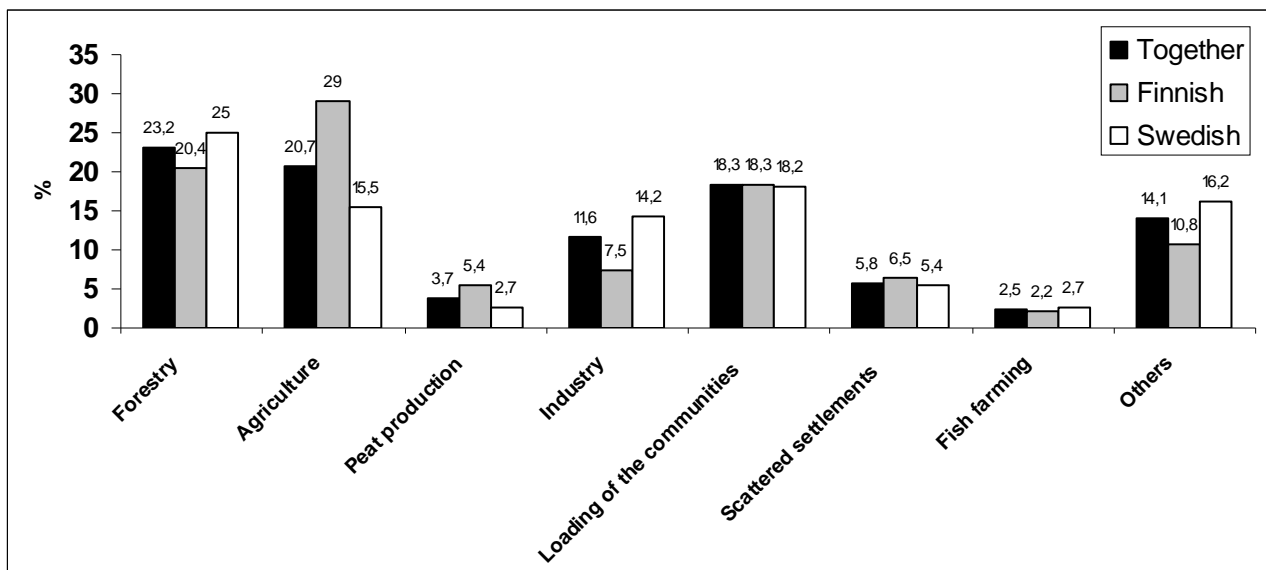


Figure 3. Problems are caused by the following sources in the River Torne watershed. The participants had possibility to choose more than one alternative (n=241).

### 3. Conclusions

1. The majority agreed that water management in the River Torne watershed should be done in cooperation between Finland and Sweden. Especially, the international cooperation is important for the protection of the watershed (30,4%) and the fishing issues (28,8%).
2. The majority (87,3%) wants to participate in decision making of water management issues in the River Torne watershed.
3. The majority (78,7%) agreed that there is no enough information available about these issues. The best sources of information are the newspapers (38,7%) and Internet (20,9%).
4. According to the inquiry, 76,5% of the participants agreed also that the watershed is in natural or nearly natural state. Human impacts in the watershed were recognized by 46,8% of the participants. The abundant vegetation was the most general problem (25,6%) in the watershed.

5. The participants think that forestry (23,2%), agriculture (20,7%) and the loading from the communities (18,3%) are major reasons behind the problems that were found in the watershed.

#### 4. References

Elfvendahl, S., Liljaniemi, P. & Salonen, N. 2006: *The River Torne International Watershed – Common Finnish and Swedish typology, reference conditions and a suggested harmonised monitoring program.* – County Administrative Board of Norrbotten. 85 p.